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DOUGLAS AIRCRAFT COMPANY
TORRANCE (C6) FACILITY
PHASE III GROUNDWATER AND SOIL
INVESTIGATION REPORT

Prepared for:

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DOUGLAS AIRCRAFT COMPANY'S TORRANCE (C6) FACILITY PHASE III GROUNDWATER AND SOIL INVESTIGATION REPORT

1.0 INTRODUCTION

The purpose of this report is to present the results of Task I and IA of the Phase III groundwater and soil investigation at the Douglas Aircraft Company's Torrance (C6) facility. The C6 facility is located at 19503 South Normandie Avenue in Los Angeles, California (Figure 1). Woodward-Clyde Consultants (Woodward-Clyde) has conducted two previous investigations (1987 and 1988) in the area of Tank Cluster The results from these investigations 15T through 18T. identified this tank cluster as a potential source of identified in the organic compounds (VOCs) information and groundwater. Additional background earlier Woodward-Clyde these results from analytical investigations can be found in the reports submitted to the California Regional Water Quality Control Board (CRWQCB), Los Angeles Region, dated April 1987 and 10 May 1988.

2.0 SCOPE AND OBJECTIVES

The specific scope and objectives of the Phase III groundwater and soil investigation are outlined below. Objectives were to:

- Evaluate the quality of the groundwater entering the site in the apparent hydraulic upgradient direction of Tanks 15T through 18T.
- 2. Assess the lateral and vertical extent of VOCs in the groundwater in the vicinity of Tanks 15T through 18T.
- 3. Evaluate the potential for offsite migration of VOCs in the groundwater.

- 4. Obtain quantitative estimates for aquifer parameters in the shallow and deep zones within the semi-perched aquifer (to depths of 130 to 150 feet). These parameters are required for design of a remedial program.
- 5. To estimate the lateral and vertical extent of VOCs in the soil around Tank Cluster 15T through 18T.

These objectives were accomplished using an approach comprised of the following tasks:

- o Task I Installation of five shallow (70 to 90 feet) observation wells (WCC-6S, -7S, -8S, -9S, and -10S) and two deep (120 to 140 feet) observation wells (WCC-1D, and -3D). In addition, Task I involved advancing four soil borings in the vicinity of Tank Cluster 15T through 18T.
- o Task IA Slug testing of six shallow wells and two deep wells.
- o Task III Aquifer testing.
- o Task IV Evaluation of data and report preparation.

The background for this investigation and a description of the tasks is described in Woodward-Clyde's work plan approved by the CRWQCB entitled "Douglas Aircraft Company Torrance (C6) Facility Phase III Ground Water and Soil Investigation Work Plan," dated 9 February 1989. This report presents the results obtained to date from Tasks I, IA, III and IV. Task II wells were not considered necessary for this phase of investigation, based on results from Task I wells.

2.1 Task I

The work performed during Task I involved advancing four soil borings (B-6, -7, -8, and -9), each to a depth of approximately 65 feet, around Tank Cluster 15T through 18T, to evaluate the extent of VOCs in this area. This task also

involved installing wells at two depths in the upper water-bearing unit called the semi-perched aquifer. upper zone wells are screened from 60 to 90 feet below ground surface, with the static water level at approximately These upper zone wells will 70 feet below ground surface. henceforth be referred to as "shallow" wells. zone wells are screened from 120 to 140 feet below ground The lower zone wells will henceforth be referred to as "deep" wells. The installation of observation wells within the upper and lower zones of the semi-perched aquifer was designed to evaluate differences in vertical gradient and concentrations of VOCs within the semi-perched aquifer. Observation Wells WCC-1D, -3D, -6S, -7S, -8S, -9S, and -10S have been installed in accordance with Task I of the work The observation well locations are shown on Figure 2. Task I also included development of the observation wells, and the collection and analysis of groundwater samples. Wells WCC-1S through WCC-5S had been installed during an earlier phase of work.

2.2 Task IA

The objective of Task IA was to conduct slug tests on six shallow wells and two deep observation wells to provide preliminary estimates of hydraulic conductivity in the shallow and deep zones of the semi-perched aquifer. These data have been used in estimating groundwater velocity and the distribution of VOCs in the groundwater within the subject area.

2.3 Task III

Woodward-Clyde conducted a pump test at the Torrance facility to observe the response of the semi-perched aquifer to hydraulic stresses created by pumping. The results obtained from the pump test and the method of conducting the test are described in Appendix A.

3.0 FIELD PROGRAM

3.1 Soil Boring Installation

Four soil borings, B-6, -7, -8, and -9, were drilled around Tank Cluster 15T through 18T, as shown on Figure 2. Each soil boring was drilled to a depth of 66.5 feet below ground surface. The purpose of the borings was to assess the vertical and horizontal extent of VOCs in the vadose zone soil in the vicinity of the tanks. Borings B-6 and B-7 were placed along the south side of the tanks, while Borings B-8 and B-9 were placed about 40 feet away, to the east and north of the tanks, respectively.

Field procedures used for drilling and sampling activities are described in Appendix A. The lithologic boring logs from B-6, -7, -8, and -9 are presented in Appendix B. The results of soil sample analyses from these borings are presented in Section 4.4.

3.2 Observation Well Installation

Seven observation wells were installed during Task I of this investigation, as previously discussed in Section 2.1. Five of the wells were completed to a depth of 90 feet, and two were completed to a depth of 140 feet. The locations of these wells are shown on Figure 2 and the procedures involved in the installation are described in Appendix A.

of the five shallow wells, the first, WCC-10S was completed near the northwest corner of the property. This location was chosen to provide information on the quality of groundwater entering the site. The second and third wells, WCC-7S and -8S, were installed downgradient of Tank Cluster 15T-18T to assist in evaluating the lateral extent of VOCs in the groundwater. Observation Well WCC-7S was placed about 160 feet south of WCC-4S, and WCC-8S was placed

approximately 125 feet north of WCC-1S. These locations were chosen considering variations in the direction of groundwater flow (southeast) previously measured at the site, and the concentration level of VOCs in WCC-1S, -3S, and -4S.

The two deep wells were installed to assess the possibility of VOCs migrating vertically downward into the lower zone of the semi-perched aquifer. Well WCC-3D was installed approximately 30 feet east of the tank cluster, and WCC-1D was completed about 190 feet east-southeast of WCC-3D, next to WCC-1S. These wells were also installed to evaluate the differences in hydraulic conductivity between the deep and the shallow zones of the aquifer.

As proposed in the Phase III work plan, Wells WCC-6S and WCC-9S were installed after receiving chemical analysis results from the three initial shallow observation wells (i.e., WCC-7S, -8S, and -10S). Because the results indicated VOCs were present at elevated concentrations in WCC-7S, Wells WCC-6S and WCC-9S were installed in locations which could intercept a more south to southeast path of migration than the wells previously installed.

3.3 Observation Well Slug Testing

Task IA involved conducting slug tests on six shallow wells, and two deep wells, to obtain estimates of horizontal hydraulic conductivity (k) values in the immediate vicinity of the six wells for the shallow and deep zones. Slug tests were completed on shallow Wells WCC-4S, -5S, -7S, -8S, -9S, and -10S. Two deep wells WCC-1D and WCC-3D were also slug tested. Testing dates were 19 July, 31 August, and 4 October 1989. An Envirolabs Data Logger, model DL-120-MCP equipped with a pressure transducer was used for raw data collection. Slugs of water being introduced and withdrawn

from each well were simulated by volume displacement using a 39-inch-long, 3.25-inch-diameter mandrel constructed of PVC pipe and plugs, and filled with silica sand. The slug test procedures and subsequent data analysis are described in Appendix A, while the slug test results are discussed in Section 4.2.

3.4 Pump Test

As part of Task III of this investigation, Woodward-Clyde conducted a 30-hour, constant discharge pumping test on 20 through 21 December 1989 at the Torrance (C6) facility. Well WCC-4S was pumped using a 1-1/2 horsepower submersible Observation wells included WCC-1S, -4S, -6S, -7S, -8S, -9S, and -1D. Five of the wells were automatically monitored for water level using three Terra-8 data loggers equipped with a total of five pressure transducers. addition, water levels were measured at regular intervals for all of the wells except WCC-1S, -1D, and -4S (monitored by data logger), using a Solonist electrical well sounder. Water level monitoring continued from the time the pump was switched on until two hours after the pump was switched off. The pump test procedures and the subsequent data analysis are described in Appendix A and the pump test results are discussed in Section 4.3.

4.0 RESULTS

4.1 Geology

The general description of shallow (less than 90 feet below ground surface) geologic deposits beneath the site was developed from borings drilled during this and previous Woodward-Clyde investigations (Woodward-Clyde 1987 and 1988). Knowledge of deep lithologic conditions (between 90 and 140 feet below ground surface) is primarily based on investigations by Hargis and Associates at the Montrose site

adjacent to the southern boundary of the DAC Torrance facility (C6) in 1986 and 1988, and from installation of WCC-1D and -3D in 1989 by Woodward-Clyde.

Borings at the site have encountered predominantly clays and silts to depths of 25 to 50 feet. Below that depth, in an interval previously described as the semi-perched aquifer, sedimentary deposits appear to change laterally over short distances, making correlation of specific lithologic units difficult. This is typical of flood-plain alluvial deposits that include sand-filled channels with interbeds and lateral gradation to finer-grained material.

The upper portion of the semi-perched aquifer appears to consist of sands and silty sands with occasional, discontinuous interbeds of silt and clay. This portion extends from below the near-surface clay deposits to depths of approximately 110 feet below ground surface. The lower portion of the semi-perched aquifer is composed of thinner beds of sand, silty sand, and minor amounts of silt. This portion appears to be confined between clay layers at depths of between 115 and 135 feet below ground surface.

4.2 Slug Testing Results

Results from slug testing of Observation Wells WCC-4S, -5S, -7S, -8S, -9S, -10S, -1D, and -3D, including the data summarized Table are in 1. conductivity values ranged from 24 to 140 gallons per day per square foot (gpd/ft²) in the shallow wells. values are typical of the sandy silts and silty sands encountered during drilling in the shallow water bearing zones of the semi-perched aquifer. The calculated hydraulic conductivity values were 21 gpd/ft² for WCC-1D and 6.6 qpd/ft^2 for WCC-3D.

4.3 Pump Test Results

The pump test data from each well showing a discernible response were analyzed using one or more of the following techniques: Recovery (Residual Drawdown) plot, Cooper-Jacob Time Drawdown plot, and/or Distance/Drawdown plot. A summary of the results is presented in Table 2. Slug test values obtained earlier are included for reference.

The hydraulic conductivity value derived from the pump test at the pumping well, WCC-4S, was 470 gpd/ft² based on analyses of recovery data (residual drawdown). These values are similar to the pump test values calculated using both the Cooper-Jacob method and the Distance Drawdown method using data from the surrounding observation wells. Overall, the calculated hydraulic conductivity values vary within a factor of two (see Table 2). Local variations in stratigraphy can account for this level of variability.

The conductivity values calculated from the slug tests are not directly comparable with conductivity values calculated from the pump test, since the former only tests the portion of the aquifer immediately adjacent to the well screen, while the pump test stresses a much larger volume of the aquifer. Overall the slug test hydraulic conductivity values are roughly on an order of magnitude lower than the pump test values. This level of variability is not surprising given that the specific assumptions and mechanics of the two test techniques are remarkably different.

Variations in the storage coefficients are somewhat greater than those for transmissivity. Fairly wide variations in the calculated storage coefficient are not unusual and, in general, have a minimal impact on the calculated yield.

4.4 Groundwater Gradient and Velocity

The groundwater gradient was calculated from the groundwater elevation data collected on 18 October 1989 (see Table 3), using Equation 1-1 as follows:

$$I = \frac{h_1 - h_2}{L} \tag{1-1}$$

Where:

// = Gradient (ft/ft)

 h_1 = Upgradient groundwater contour elevation (feet)

 h_2 = Downgradient groundwater contour elevation (feet)

= Distance between groundwater contours (feet)

Based on groundwater level data of 18 October 1989, the gradient across the C6 facility appears to be south to southeast as shown on Figure 3. The gradient was calculated using the assumption that all water bearing strata in this area act as one hydrogeologic unit. This assumption is considered valid for preliminary evaluation of flow velocity and the extent of VOCs in the groundwater.

A gradient of 0.002 ft/ft towards the south-southeast was calculated using Equation 1-1.

The groundwater velocity was calculated from Darcy's equation:

$$V = \frac{KI}{7.48 \ n_e} \tag{1-2}$$

Where:

- V = Groundwater velocity (feet per day)
- K = Hydraulic conductivity of the media based on slug test values calculated in Section 4.3 (gal/day/ft²)
- [= Groundwater gradient calculated from Equation 1-1
- 7.48 = The number of gallons of water per cubic foot
- n_{\star} = Effective porosity of the saturated media

Assuming:

- K = 715 gal/day/ft² for shallow wells
 NOTE: The hydraulic conductivity value used in the
 calculation was the average of the values obtained
 from all the pump test analytical methods used.
- // = 0.002 ft/ft calculated from Equation 1-1
- n_{\circ} = 0.30 for silty fine-grained sand.

Based on the calculations and assumptions above and the results obtained from the pump test, the groundwater velocity is approximately 0.64 feet per day or 234 feet per year in the shallow zone of the semi-perched aquifer.

does not appear to be a significant vertical groundwater gradient between the shallow and deep portions of the aquifer. The approximately equal static groundwater levels measured in the associated shallow and deep and -3D, observation wells WCC-1S and -1D, and WCC-3S indicate the major component of groundwater horizontal.

4.5 Soil Sampling and Analytical Results

Soil samples were collected from all the observation wells and soil borings installed during the field program as described in Appendix A. Samples which had elevated OVA headspace readings and which were in close proximity to tank Cluster 15T through 18T, as well as samples from WCC-6S, were selected for analytical testing. Soil samples at selected depths from B-6, B-7, B-8, B-9, and WCC-6S were analyzed by EPA Method 8240 at West Coast Analytical Service (WCAS) in Santa Fe Springs. A summary of results is presented in Table 4, while the analytical data sheets provided by WCAS, and chain-of-custody forms are presented in Appendix C.

The soil sampling results show low concentrations of organic compounds present in most of the borings installed around Boring B-6 seems to tank cluster 15T through 18T. located near the source of the release. At this location the soil column contained elevated levels of organic compounds beginning at a depth of 20 feet and continuing down to at least 60 feet. At the other boring locations the organic compound concentrations became elevated at depths of Both halogenated and nonhalogenated 40 feet or more. compounds are present at location B-6, with the higher concentrations of each present at a depth of 20 feet. Toluene was the dominant nonchlorinated hydrocarbon present 1,1,1-trichloroethane (1,1,1-TCA) and trichlorowhile ethylene (TCE) were the dominant chlorinated hydrocarbons. At Boring B-7, which is located about 30 feet east of Boring B-6, a similar mix of compounds is present, however, their concentrations are at a greater depth in the boring. highest concentrations of compounds are present at a depth of 60 feet, with methylene chloride identified in the soil for the first time at this depth. Samples from Boring B-8, which is located east of the tank cluster, also contained low (<1 ppm) concentrations of compounds except for toluene, which was present at 25 ppm at a depth of 65 feet. Samples from Boring B-9, which is north of the tank cluster, also contained low concentrations of compounds at depth (generally less than 1 ppm).

Three samples collected at, and just below, the water table from the borehole in which Well WCC-6S was installed, contained low concentrations of MEK (9.4 ppm), MIBK (8.4 ppm), toluene (1 ppm), and a compound tentatively identified as butyl cellosolve (0.3 ppm).

4.6 Groundwater Sampling and Analytical Results

During this task, two rounds of groundwater samples were collected and analyzed during July and August from monitoring Wells WCC-1D, -3D, and -1S through -10S, except WCC-6S and WCC-9S. These two wells were the most recently installed, and water sampling was completed the first week in October. The procedures used during these sampling efforts are described in Appendix A.

All of the water samples tested, including groundwater samples, duplicates, rinse blanks, and trip blanks, were analyzed for VOCs by EPA Method 624 by WCAS. For the first round of sampling, one sample from each well, two duplicate samples, three rinse blanks, and one trip blank were analyzed. Analysis of water samples from the second round included one sample from each well, two rinse blanks, and one trip blank.

The groundwater analytical results are summarized in Table 5. Analytical data sheets provided by WCAS, and chain-of-custody forms are attached in Appendix C.

The data indicate that of the 10 shallow wells sampled at the facility, WCC-2S, located upgradient of Tanks through 18T, WCC-5S and WCC-9S, both located along the eastern boundary of the site, contained total VOCs at or below 30 ppb, predominantly TCE. One well, WCC-10S, contained TCE at about 80 ppb and less than 5 ppb of The other six shallow wells all contained a chloroform. similar mix of VOCs, with the dominant compounds being TCE, 1,1-dichloroethene (1,1-DCE), and 1,1,1-TCA, with lower concentrations of cis-1,2-dichloroethene (cis-1,2-DCE) also present.

The deep well closest to the tank cluster (WCC-3D) contained 1,1,1-TCA at concentrations of around 50 ppb on the first occasion the well was sampled. Trace amounts of TCE, toluene, and cis-1,2-DCE were also present. When the well was resampled one month later only 1,1,1-TCA was detected, but the detection limits were ten times higher for the other compounds measured in the first round of sampling because of a laboratory error. Samples from the other deep well (WCC-1D), contained low concentrations of 1,1,1-TCA (1 ppb), (2 ppb), and cis-1,2-DCE (1 ppb). The total VOC concentration in Well WCC-1D was less than 10 ppb.

The water quality data collected to date indicate the presence of TCE in the groundwater (Well WCC-10S) entering DAC's Torrance (C6) facility. The TCE concentration was measured at approximately 80 ppb, nearly an order of magnitude higher than the TCE concentration in Well WCC-2S, upgradient of Tanks 15T through 18T, and Wells WCC-5S and -9S at the downgradient boundary of the site. Wells WCC-7S and WCC-8S are located south and north, respectively, of the previously identified area of groundwater containing VOCs.

5.0 EVALUATION OF GROUNDWATER TREATMENT OPTIONS

Concurrent with field investigations performed Woodward-Clyde at the Torrance facility, an evaluation was made of treatment options for groundwater containing chlorinated and non-chlorinated hydrocarbons at the site. It was originally the intent of Douglas Aircraft Company to conduct a pilot evaluation of groundwater treatment systems using water produced during the pump test at the site. However, the quantity of water produced during the pump test not enough for pilot tests, and so bench scale evaluation will be conducted. The tests will be conducted on some of the systems described in the following sections.

5.1 Description of Treatment Options

There are many treatment systems for the removal of organic compounds from groundwater. Three of these systems are:

- o Activated Carbon Adsorption
- o Air/steam Stripping
- o Oxidation

Woodward-Clyde assumed a flow rate of 50 gallons per minute (gpm) and organic concentrations at the levels found in WCC-4S for the characteristics of the influent in this treatment evaluation. The effluent organic concentrations assumed for this evaluation were the California State Action Levels.

5.1.1 Activated Carbon Adsorption

The process of adsorption onto activated carbon involves contacting the organic contaminated groundwater with the carbon, by flow through a series of packed bed reactors. The activated carbon selectively adsorbs chemical

constituents by a surface attraction phenomenon in which organic molecules are attracted to the internal pores of the carbon granules.

Once the micropore surface are saturated with organics, the carbon is "spent" and must be replaced with regenerated or virgin carbon. The time to reach "breakthrough" or exhaustion is the most critical operating parameter. Carbon longevity balanced against influent concentrations governs the operating economics.

5.1.2 Air Stripping

Air or steam stripping is a mass transfer process in which organic constituents in groundwater are transferred to the Air or steam stripping is gas phase (in air/steam). frequently accomplished in a packed tower equipped with an The packed tower works on the principle of countercurrent flow. The influent water flows down through the packing, while the air/steam flows upward, exhausted through the top. Volatile, soluble components have an affinity for the gas phase and tend to leave the aqueous stream for the gas phase. The gas phase effluent must be controlled. This is usually accomplished by using a carbon scrubber for air stripping and a vapor condenser followed by product-water separator for steam stripping.

Woodward-Clyde reviewed the Ejector System, Inc. cascade air stripping. This system is designed to accommodate field changes by allowing for the addition or subtraction of cascade tray modules as conditions dictate. The system is low profile and units are typically shipped completely assembled. Other systems, such as the Aquadetox process, use the same basic principles.

5.1.3 Oxidation

Treatment of groundwater using oxidation is not a new process. New applications using hydroxyl radicals as the oxidizing agent are now available. These radicals can be produced by: ultraviolet (UV) light, hydrogen peroxide, and/or cavitation reactions. Organic constituents are oxidized to carbon dioxide and water by the hydroxyl radicals.

Two types of oxidation systems which Woodward-Clyde evaluated were the CAV-OX process and the Perox-pure process. The CAV-OX process uses induced cavitation and UV light to allow oxidation to occur. The Perox-pure system uses hydrogen peroxide and UV light to cause the oxidation process.

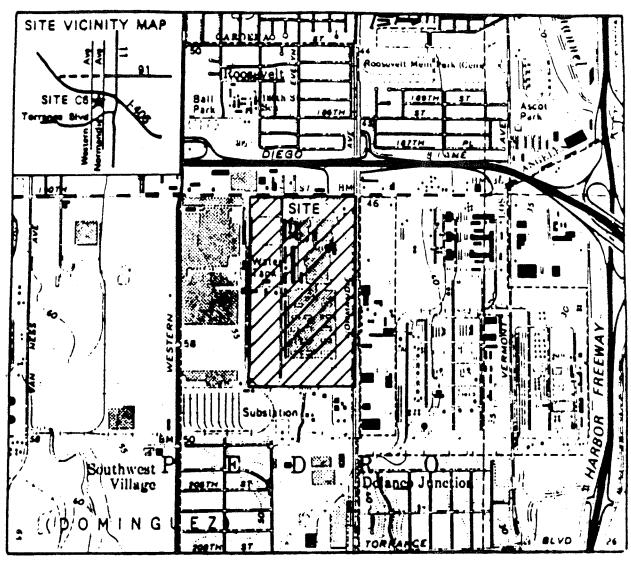
Representatives from each of the vendors expressed the need for bench scale testing in order to better estimate the operation and maintenance costs associated with their system. Such evaluations will be conducted by Douglas Aircraft after bench scale testing has been completed to aid in the selection of an appropriate system.

5.2 Discussion

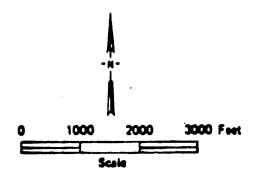
During this alternative review, vendors contacted indicated that treatability studies done on laboratory scale are completed for a fee. Generally this fee is charged to recoup analytical analysis cost incurred during the testing of the systems. Two types of systems will be evaluated by Douglas Aircraft Company for possible treatment methods for the C6 facility: air/steam stripping and oxidation. These laboratory tests will allow vendors to better conceptualize the required treatment scheme. Also, this will allow an analysis of capital and operation costs for each system and it will help to evaluate the effectiveness of the systems.

6.0 REFERENCES

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CS FACILITY



PROJECT: DOUGLAS AIRCRAFT CO.

PROJECT NO.

8941863J

C6 FACILITY LOCATION MAP

FIG. 1

DOUGLAS AIRCRAFT C6 FACILITY, TORRANCE CALIFORNIA SLUG TEST DATA REDUCTION TABLE 1

Where:

K = Hydraulic Conductivity

Rc = Radius of well casing in feet

Re = Effective Radius of influence (ft)

Yo = Initial drawdown at time t =0 (sec)

H = Distance from base of well to SWL (ft)

Yt = Drawdown at time t (sec)

Dw = Depth of well (ft)

t = Selected time/drawdown semi-log plot (sec) L = Length of screen of saturated thickness if entire screen is not saturated in feet (Bottom of aquifer approx. 150 feet) D = Thickness of aquifer in feet Rw = Radius of Boring in feet B = Constant based on L/Rw Depth to water(ft) - Measured 19 July, 30 August, and 4 October 1989. A = Constant Based on L/Rw

| Parameter IN OU 0.17 0.42 0.42 90 W (Dw-DTW)* 69.35 € (Dw-DTW)* 20.65 2 (Dw-DTW) (Dw-DTW) 80.65 6 (Ow-DTW) 80.65 6 | 0.17 0.42 90 69.35 20.65 80.65 | 0.17 0.42 90 | OUT | 2 | 11.10 | | |
|--|---|--------------------|----------|----------|----------|----------|----------|
| 0.17 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.69 0.69 0.65 | 0.17 0.42 90 69.35 20.65 20.65 | 0.17 | | | 100 | Z | OUT |
| 0.42 W 69.35 (Dw-DTW)* 20.65 (150-DTW) 80.65 (Dw-DTW) 3.1 W 49.17 | 0.42 90 69.35 20.65 20.65 | 0.42 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| 90 69.35 7 20.65 80.65 20.65 3.1 49.17 | 90 69.35 20.65 80.65 | 06 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 |
| 69.35 20.65 80.65 20.65 3.1 49.17 | 69.35 20.65 80.65 20.65 | | 06 | 06 | 06 | 06 | 06 |
| 20.65 80.65 20.65 3.1 49.17 | 20.65 80.65 20.65 | 69.69 | 69.69 | 68.41 | 68.41 | 70.01 | 70.01 |
| 80.65 20.65 3.1 0.5 49.17 | 80.65 20.65 | 20.31 | 20.31 | 21.59 | 21.59 | 19.99 | 19.99 |
| 20.65 3.1 0.5 49.17 | 20.65 | 80.31 | 80.31 | 81.59 | 81.59 | 79.99 | 79.99 |
| 3.1 0.5 w 49.17 49 | 2.4 | 20.31 | 20.31 | 21.59 | 21.59 | 19.99 | 19.99 |
| 0.5 W 49.17 49 | ر م | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| w 49.17 49 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 100 | 49.17 | 48.36 | 48.36 | 51.40 | 51.40 | 47.60 | 47.60 |
| Yo 0.87 1. | 1.5 | 0.65 | 2.05 | 0.84 | 1.5 | 0.94 | 1.5 |
| Yı 0.28 0.3 | 0.33 | 0.16 | 0.61 | 0.38 | 0.7 | 0.62 | |
| 1 20 2 | 20 | . 11 | 10 | 20 | 20 | 20 | 20 |
| Ln Re/Rw = 2.52584 2.5258 | .52584 | 2.50616 | 2.50616 | 2.57881 | 2.57881 | 2.48737 | 2.48737 |
| K (tVsec) = 1.00E-04 1.34E-0 | 34E-04 | 2.27E-04 | 2.16E-04 | 6.85E-05 | 6.58E-05 | 3.74E-05 | 3.65E-05 |
| AVG K (IVsec) 1.17E-04 | | 2.22E-04 | | 6.71E-05 | | 3.69E-05 | |
| AVG K (CM/SEC) 3.57E-03 | | 6.76E-03 | | 2.05E-03 | | 1.13E-03 | |
| AVG K (Gal/day/ft2) 7.56E+01 | | 1.43E+02 | | 4.34E+01 | | 2.39E+01 | |

TABLE 1 (Continued)

| | MC | WCC-9S | MCC | WCC-10S | WCC-1D | -1D | WCC-3D | -3D |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| Parameter | Z | OUT | Z | OUT | Z | OUT | Z | OUT |
| Rc | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| RW | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 |
| DW | 06 | 06 | 06 | 06 | 140 | 140 | 140 | 140 |
| DTW | 67.17 | 67.17 | 69.51 | 69.51 | 60.02 | 70.09 | 70.62 | 70.62 |
| $L = (Dw-DTW)^*$ | 22.83 | 22.83 | 20.49 | 20.49 | 20 | 20 | 20 | 20 |
| D = (150-DTW) | 82.83 | 82.83 | 80.49 | 80.49 | 79.91 | 79.91 | 79.38 | 79.38 |
| H = (Dw-DTW) | 22.83 | 22.83 | 20.49 | 20.49 | 16.69 | 69.91 | 69.38 | 69.38 |
| A | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| 8 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| L/Rw | 54.36 | 54.36 | 48.79 | 48.79 | 47.62 | 47.62 | 47.62 | 47.62 |
| Yo | 0.91 | 1.9 | 96.0 | 1.5 | 2.25 | 2.4 | 1.68 | 1.7 |
| λί | 0.16 | 0.21 | 0.56 | 0.83 | 0.39 | 0.52 | 1.23 | 1.36 |
| | 71 | 77 | 20 | 20 | 117 | 117 | 09 | 09 |
| Ln Re/Rw = | 2.64567 | 2.64567 | 2.51661 | 2.51661 | 3.19028 | 3.19028 | 3.18702 | 3.18702 |
| K (ft/sec) = | 4.10E-05 | 4.79E-05 | 4.78E-05 | 5.25E-05 | 3.45E-05 | 3.01E-05 | 1.20E-05 | 8.56E-06 |
| AVG K (ft/sec) | 4.44E-05 | | 5.02E-05 | | 3.23E-05 | | 1.03E-05 | |
| AVG K (CM/SEC) | 1.36E-03 | | 1.53E-03 | | 9.86E-04 | | 3.13E-04 | |
| AVG K (Gal/day/ft2) | 2.87E+01 | | 3.24E+01 | | 2.09E+01 | | 6.63E+00 | |
| | | | | | | | | |

TABLE 2
SUMMARY OF AQUIFER HYDRAULICS TESTING

| | | Hydraulic Condu | uctivity (gpd/ft ²) | |
|----------------|------------------------|-----------------|---|---|
| Well No. | Slug Test ^a | Pump Test | Pump Test ^b Analysis Method | Coefficient of Storativity (S) (from pump test) |
| 1\$ | | 460 | Cooper Jacob | 0.014 |
| 28 | NT | NM | | |
| 3 S | NT | ND | | |
| 48 | 76 | 470 | residual drawdown | |
| 5 S | 140 | NM | | |
| 6S | NT | 970 | Cooper Jacob | 0.004 |
| 7\$ | 43 | 970 | Cooper Jacob | 0.013 |
| 8\$ | 24 | 560 | Cooper Jacob | 0.009 |
| 9\$ | 29 | NR | | |
| 10\$ | 32 | NM | •• | |
| 1D | NT | NR | | |
| 3D | 6.6 | NM | | |
| 1S, 6S, 7S, 8S | | 860 | Distance drawdown (500 minutes) | 0.007 |

a Slug test values included for reference, generally not directly comparable to pump test values.

NT Not tested.

NR Not responsive.

NM Not monitored.

b WCC-4S was pumping well.

TABLE 3

GROUND WATER ELEVATION DATA COLLECTED 18 OCTOBER 1989
DOUGLAS AIRCRAFT C6 FACILITY, TORRANCE, CALIFORNIA

| Well No. | Elevation ¹ Top of Well ² (ft) | Depth to Ground Water From top of Well (ft) | Elevation of Ground Water (ft) |
|----------|---|--|-----------------------------------|
| WCC-1S | 50.70 | 70.18 | -19.48 |
| WCC-2S | 50.59 | 69.65 | -19.06 |
| WCC-3S | 51.19 | 70.61 | -19.42 |
| WCC-4S | 49.69 | 69.28 | -19.59 |
| WCC-5S | 48.22 | 67.92 | -19.70 |
| WCC-6S | 50.95 | 70.65 | -19.70 |
| WCC-7S | 48.29 | 68.36 | -20.07 |
| WCC-8S | 50.56 | 69.91 | -19.35 |
| WCC-9S | 47.01 | 67.08 | -20.07 |
| WCC-10S | 51.12 | 69.54 | -18.42 |
| WCC-1D | 50.45 | 69.96 | -19.51 |
| WCC-3D | 51.18 | 70.56 | -19.38 |

- 1 Reference: City of Los Angeles Benchmark CY-3028, datum is Mean Sea Level (MSL).
- 2 Top of well is top of well casing on north side marked with permanent ink.

TABLE 4

RESULTS OF SOIL ANALYSES AT DAC C6 FACILITY

| | | T | |
|------------------|------------------------------|--|---|
| Boring Number | Depth of Sample (feet) | Halogenate (EPA Meth | ed and Aromatic Volatile Organics nod 8010/8020, concentrations in ppm) |
| B-6 | 10 | 0.053 0.011 0.016 0.064 0.001 0.009 | methylene chloride DCA TCE toluene ethylbenzene total xylenes |
| B-6 | 20 | 12 45 1,900 51 390 | TCA TCE toluene ethylbenzene total xylene |
| B-6 | 30 | 48 21 | toluene total xylenes |
| B-6 | 35 | 19 6 | toluene total xylenes |
| B-6 | 40 | 59 23 320 2.9 21 | TCA TCE toluene ethylbenzene total xylenes |
| B-6 | 50 | 0.06 0.09 0.53 0.035 0.31 0.03 | 1,1-dicholoroethylene DCA TCA TCE toluene total xylenes |
| B-6 | 60 | 7.7 9.9 2.9 | TCA toluene total xylenes |
| B-7 | 30 | 0.15 0.09 1.7 0.09 | TCA TCE toluene total xylenes |
| B-7 | 35 | 1 | total xylenes |
| B-7 | 40 | 10 40 1 | TCA toluene total xylenes |

TABLE 4 (continued)

| Boring Number | Depth of Sample (feet) | Halogena (EPA Me | ated and Aromatic Volatile Organics ethod 8010/8020, concentrations in ppm) |
|------------------|------------------------------|---------------------------------------|---|
| B-7 | 40 | 12/10 25/40 <1 | TCA toluene xylenes |
| B-7 | 50 | 57 880 4 41 1.7 | 1,1-dichloroethylene TCA 1,1,2-trichloroethane toluene total xylenes |
| B-7 | 60 | 20,000 600 59,000 140 450 | methylene chloride 1,1-dichloroethylene TCA tetrachloroethylene toluene |
| B-8 | 45 | 0.27 | toluene |
| B-8 | 50 | 0.04 | toluene |
| B-8 | 60 | 0.04 0.44 1.0 | DCA TCA toluene |
| B-8 | 65 | 0.05 25 | TCA toluene |
| B-9 | 40 | 0.03 0.02 0.08 0.1 | DCA TCA TCE toluene |
| B-9 | 50 | 0.02 0.11 | TCE toluene |
| B-9 | 55 | 0.03 0.06 | TCA toluene |
| WCC-6S | 75 | 9.4 8.4 1.0 0.30 | MEK MIBK Toluene Butyl Cellosolve |

TABLE 4 (continued)

| Boring Number | Depth (feet) | Halogenated and Aromatic Volatile Organics (EPA Method 8010/8020, concentrations in ppm) |
|------------------|-----------------|--|
| WCC-6S | 80 | 9.2 MEK .24 DCE 2.50 MIBK 2.20 toluene .08 TCE 0.70 butyl cellosolve |
| WCC-6S | 85 | .550 MEK .330 MIBK .150 toluene .007 TCE |

Borings 8 and 9 sampled on 6/14/89, Borings 6 and 7 sampled on 6/13/89.

MEK, 2-Butanone MIBK, 4-methyl-2-pentanone

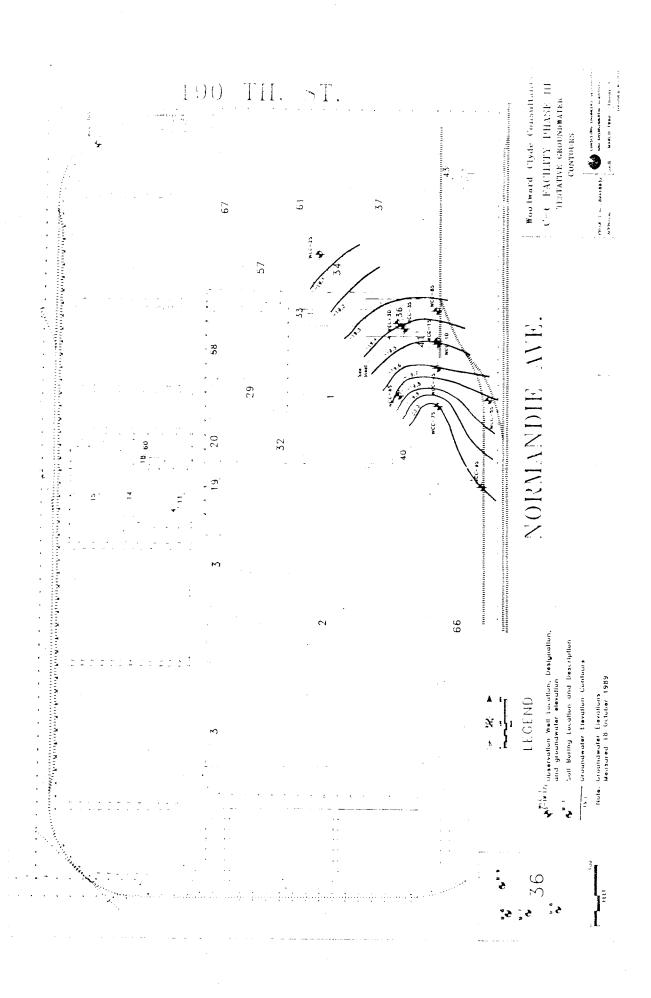
TCA, 1,1,1-trichloroethane TCE, trichloroethylene DCE, 1,1-dichloroethylene

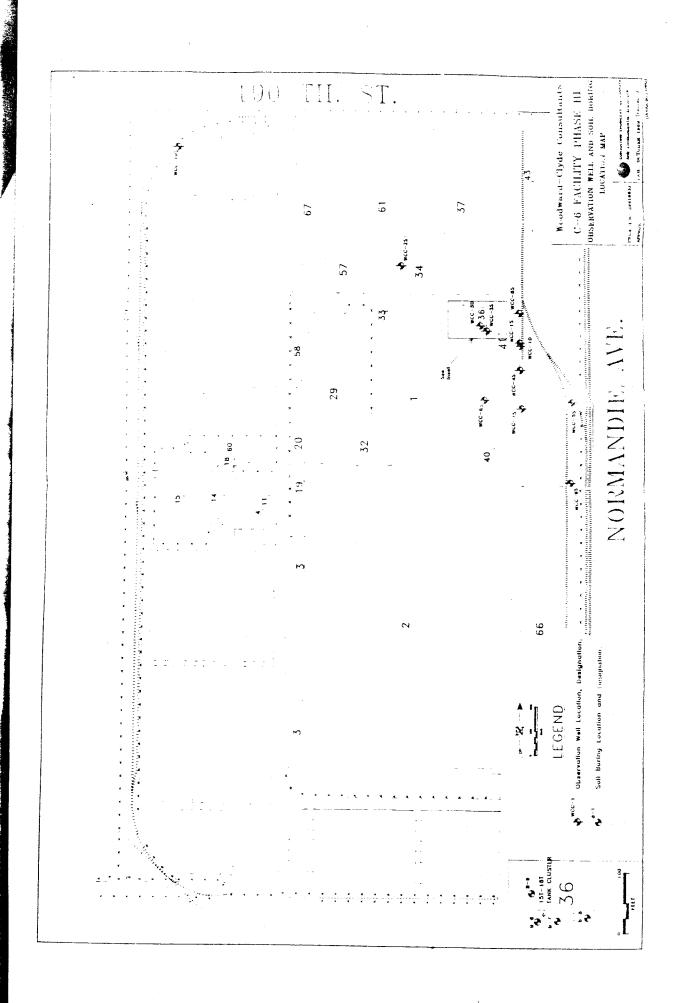
(2L ABC/CBGW3 14)

TABLE 5
GROUND WATER ANALYTICAL DATA AT DOUGLAS AIRCRAFT C6 FACILITY, TORRANCE, CALIFORNIA
(Concentration in ug/I)

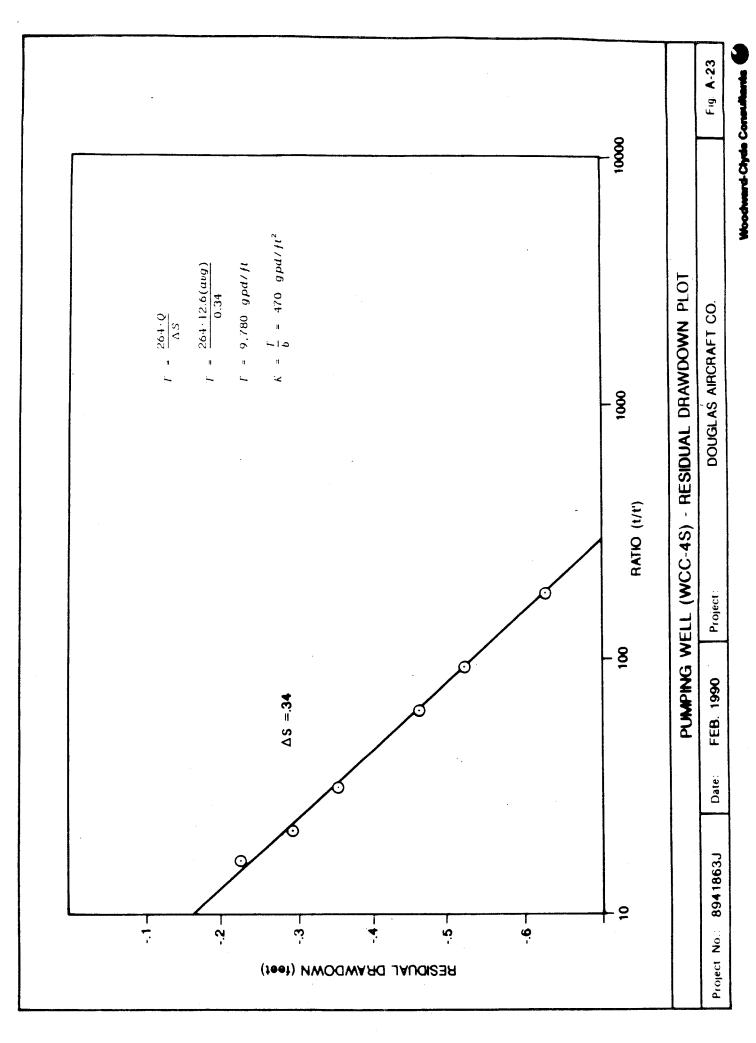
| | | | | | | COMPOUND | JUND | | | | |
|-----------|---|---|-----------------------------|---------------------------------------|---|--|-----------------------------|--------------------------|---------------------------------------|------------------------------------|-------------|
| WELL I.D. | SAMPLE DATE | 1,1-DCE | 1,1-DCA | 1,1,1-TCA | TCE | MIBK | trans-1,2-DCE | Chloroform | Toluene | Вепzепе | cis-1,2-DCE |
| WCC-1S | 03/27/87 04/13/87* 11/12/87 07/13/89 08/23/89 | 2,800 3,700/2,500 3,000 900 1,500 | -/- 23 80 30 30 | 300 260/120 160 67 < 30 | 4,600 5,500/3,600 5,200 2,400 2,800 | -/- -/- -100 -100 | / 75 <20 <30 | -/- -/- -/- -/- | -/ -20 -30 | 85 110/~ 160 < 20 < 30 | |
| WCC-2S | 11/02/87 11/12/87 07/13/89 08/23/89 | ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ | 1122 | ۵، ۲۵. | 44 4 & & & & & & & & & & & & & & & & & & | <5 5 | | 1155 | 9 | 1155 | 1.122 |
| WCC-3S | 11/02/87 11/12/87 07/13/89 08/23/89 | 38,000 88,000 18,000 56,000 | 1,000 < 500 < 1,000 | 110,000 54,000 56,000 78,000 | 10,000 11,000 7,700 6,000 | 54,000 70,000 <3,000 <5,000 | - 1,000 660 000,1> | <pre></pre> | 80,000 140,000 32,000 56,000 | | |
| WCC-48 | 11/02/87 11/12/87 07/13/89 08/23/89 | 360 1,200 170 360 | : : < < 3 < 5 | 14 35 11 | 700 690 270 410 | - ' - ' - ' - ' - ' - ' - ' - ' - ' - ' | 04 1 to to | 0 1 E & | 1 1 60 100 | 4.3 5.5 | 10 15 |
| WCC-5S | 11/30/87 01/08/88 07/13/89* 08/23/89 | 7 4 3/3 <1 | - <1/<1 <1 | - <1/<1 <1 | 1 10 13/12 12 | ~5/<5 <5 | | - <1/<1 <1 | 1 - <1/<1 <1 | <1/ <i><1/<1</i> | 6/6 |
| WCC-65 | 10/6/89 | 210 | 4 01/ | 130 | 140 | <5 <50 | 7 | <10 <10 | ¢10 | <1 <10 | 12 26 |
| WCC-8S | 07/13/89 08/23/89 07/13/89 08/23/89 | 1,188 820 820 820 820 | S S S S S S | 39 061 081 | 1,400 240 430 | 100303030 | < 30 9 < 5 | \$\$ \$\$ \$\$ | <30 <5 <5 | , 30 , 5 , 5 | 7 7 |
| WCC-10S | 10/6/89 07/13/89* 08/23/89 | <1 2/1 4 | <1 <1/<1 | <1 <1/<1 <1 | 15 86/87 81 | <5 <5/<5 · | <1/4 | <1 3/3 4 | <1 <1/<1 <1 | <1/4 <1/41 <1 | <1/<1 |
| WCC-1D | 07/25/89 08/23/89 | 1. | ₽. | | 2 2 | <55 <5 | ₩. | ₹ . | | 55 5 | > = |
| WCC-3D | 07/25/89 08/23/89 | <1 <10 | <11 <10 | 49 32 | 4 <10 | \$ \$ \$ | , c1 | - \ - 10 | < 10 | <10 | < 10 |

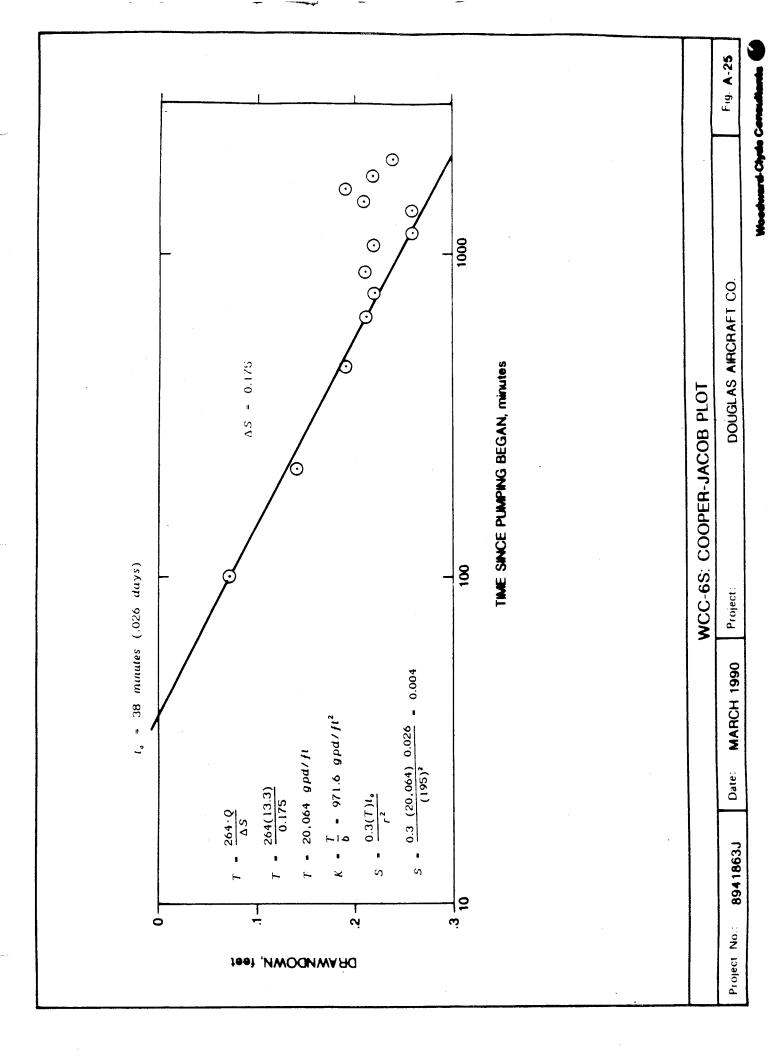
Duplicate sample also analyzed
 Not Detected (Detection limit not specified)

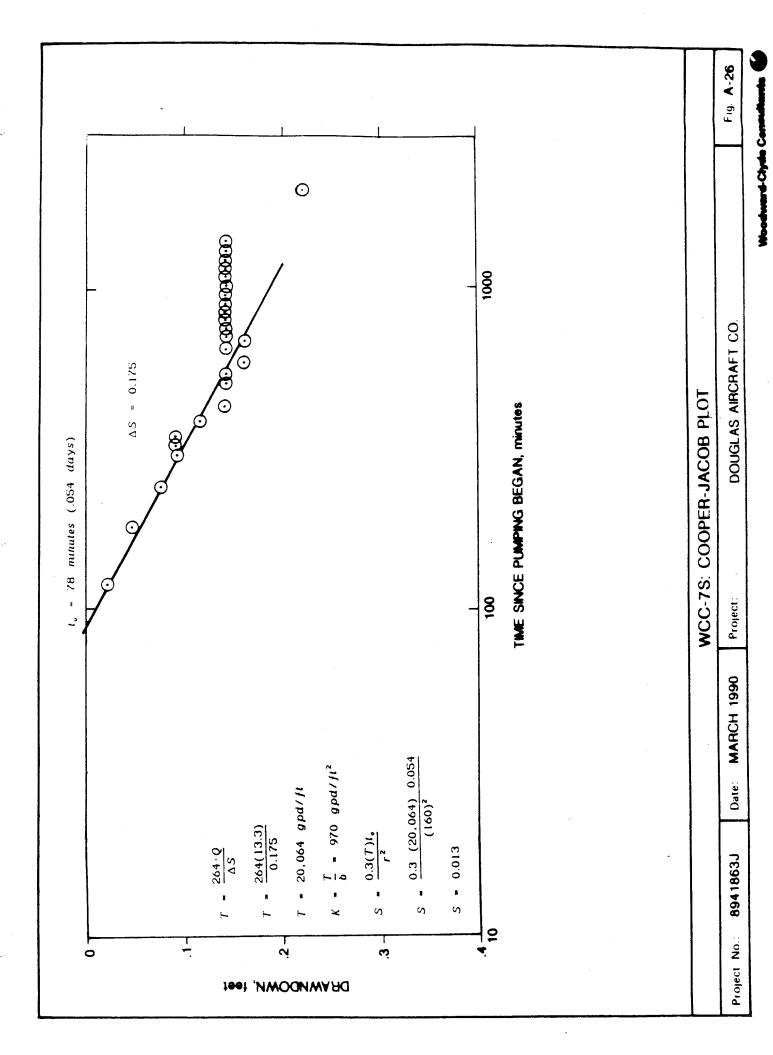


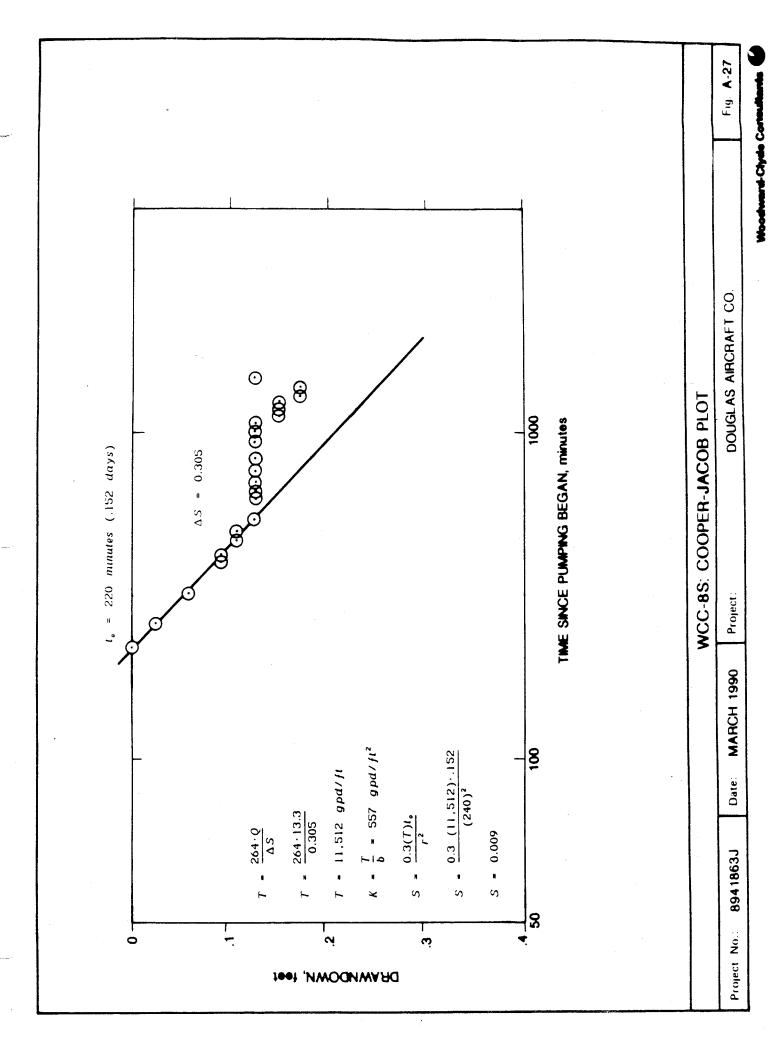


A Kinney Mix A









DRAWNDOWN, feet

TABLE A-1
WELL DEVELOPMENT SUMMARY
DOUGLAS AIRCRAFT C6 FACILITY

| Well No. | Sand Bailer and Surge Block Time (min) | Sand Bailer Volume Removed (gallons) | Pumping Time (min) | Pumping Volume Removed (gallons) | Total Removed (gal) | Comments |
|-----------|---|---|--------------------------|---|---------------------------|--|
| WCC-6S | 15 | 45 | 75 | 400 | 445 | Water became completely clear. |
| WCC-7S | 60 | 100 | 70 | 500 | 600 | Water became completely clear. |
| wcc-8s | 55 | 70 | 90 | 430 | 500 | Water became completely clear. |
| WCC-9S | 15 | 60 | 70 | 310 | 370 | Water became completely clear. |
| . wcc-10s | 95 | 190 | 45 | 370 | 560 | Water became completely clear. |
| WCC-1D | 15 | 40 | 540 | 1,170 | 1,210 | Well was damaged by bailing on 7 July 1989. Well was repaired on 20 July 1989. Well was developed by pumping only, following repair. |
| WCC-3D | 320 | 500 | •• | | 500 | Water became slightly cloudy. Well was only pumped just before sampling, see Table A-2. |

TABLE A-2
WATER SAMPLING DATA
DOUGLAS AIRCRAFT C6 FACILITY

| Well No. | Sample Date | Sample Interval (gal) | Electrical Conductivity EC (µmhos) | Total Dissolved Solids TDS (ppm) | рН | Temperature F° |
|----------|-------------|--------------------------|--|---|--|--------------------------------------|
| wcc-1s | 7/12/89 | 1 4 6 8 10 | | 490 560 540 580 540 | 9.0 7.2 7.2 7.2 7.2 | 74.5 74.7 74.3 74.7 74.3 |
| | 8/23/89 | 2 4 6 8 10 | 1220 1320 1340 1330 1330 | | 7.3 7.3 7.3 7.3 7.3 7.3 | 71.1 71.0 71.0 70.6 70.6 |
| WCC-2S | 7/11/89 | 15 25 35 40 | | 310 320 320 320 320 | 7.3 7.2 7.2 7.2 | 72.1 72.0 72.0 71.6 |
| | 8/22/89 | 10 20 30 40 | 760 760 760 760 | | 7.2 7.3 7.3 7.3 | 70.4 70.4 70.2 70.2 |
| wcc-3s | 7/12/89 | 10 20 30 40 | | 550 550 560 560 | 6.8 6.7 6.7 6.7 | 73.9 73.4 73.4 73.4 |
| | 8/23/89 | 10 20 30 40 | 1270 1270 1280 1280 | | 6.8 6.8 6.9 6.9 | 70.5 69.9 70.2 70.2 |
| WCC-4S | 7/11/89 | 15 25 35 45 | | 430 440 420 450 | 7.2 7.2 7.2 7.2 | 72.7 72.9 72.9 73.0 |
| | 8/23/89 | 10 20 30 40 | 960 990 1000 1005 | | 7.2 7.2 7.2 7.2 | 69.8 69.8 69.2 69.4 |
| WCC-5s | 7/11/89 | 15 25 35 45 | | 380 370 390 390 | 7.3 7.3 7.3 7.3 | 73.4 72.0 72.1 72.3 |
| | 8/22/89 | 15 25 35 45 | 885 900 900 900 | | 7.2 7.3 7.3 7.3 | 69.1 69.1 69.2 69.4 |
| WCC-6S | 10/6/89 | 10 20 30 40 | 1,180 1,190 1,190 1,190 | | 7.0 7.1 7.1 7.1 | 69.7 69.7 69.8 69.8 |

TABLE A-2 (continued)

| Well No. | Sample Date | Sample Interval (gal) | Electrical Conductivity EC (μπhos) | Total Dissolved Solids TDS (ppm) | р₩ | Temperature F° |
|----------|-------------|---|--|---|---|--|
| WCC-7S | 7/11/89 | 15 25 35 45 | | 540 520 510 510 | 7.2 7.1 7.2 7.2 | 72.5 72.5 72.7 72.5 |
| | 8/23/89 | 10 20 30 40 | 1180 1225 1220 1200 | | 7.1 7.1 7.2 7.2 | 68.8 69.0 68.8 69.5 |
| wcc-8s | 7/11/89 | 15 25 35 45 | | 390 390 380 380 | 7.3 7.2 7.2 7.2 | 72.5 72.7 72.5 72.7 |
| | 8/23/89 | 10 20 30 40 | 880 865 865 875 | | 7.2 7.2 7.2 7.3 | 69.9 69.6 69.6 69.6 |
| wcc-9s | 10/6/89 | 15 25 35 45 | 1,110 1,070 1,050 1,000 | | 7.1 7.2 7.2 7.2 | 69.1 69.2 69.0 69.1 |
| WCC-10\$ | 7/11/89 | 1 10 25 35 40 45 | | 420 450 420 410 410 420 | 7.2 7.3 7.3 7.3 7.2 | 70.9 70.3 70.3 70.7 70.5 70.5 |
| | 8/22/89 | 10 20 30 40 | 1000 1010 1040 1040 | | 7.2 7.2 7.3 7.3 | 69.1 69.1 68.9 68.8 |
| WCC-1D | 7/24/89 | 15 75 175 275 350 | 760 720 770 770 770 770 | | 7.2 7.3 7.4 7.5 7.5 | 70.6 71.0 71.3 71.1 71.1 |
| | 8/21/89 | 20 40 60 80 100 120 | 760 756 730 730 720 720 720 | | 7.4 7.4 7.5 7.5 7.4 7.4 | 70.1 69.6 69.7 69.2 69.7 69.8 69.8 |
| WCC-3D | 7/25/89 | 10 50 100 200 300 400 500 | 770 760 780 760 750 750 750 | | 7.4 7.2 7.4 7.6 7.4 7.6 7.8 | 69.6 70.2 70.3 70.4 71.9 70.2 70.8 |
| | 8/21/89 | 20 40 60 80 100 120 140 | 710 715 715 715 720 720 715 715 | | 7.3 7.4 7.4 7.4 7.4 7.4 7.4 | 69.5 69.2 69.3 69.0 69.3 69.8 69.1 |

TABLE A-3

SUMMARY OF WELL CONSTRUCTION DETAILS

| | | | | | | | | | | | | 71 |
|---|--------------------|------------------------|------------------------|--------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Filter Pack Material | No. 12 Silica sand | No. 0/30 Lonestar sand | No. 0/30 Lonestar sand | No. 0/30 Lonestar sand | No. 0/30 Lonestar sand | No. 0/30 Monterey sand | No. 0/30 Lonestar sand | No. 0/30 Lonestar sand | No. 0/30 Monterey sand | No. 0/30 Lonestar sand | No. 0/30 Lonestar sand | No. 0/30 Lonestar sand |
| Diameter of Filter Pack (inches) | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 10 | 10 | 10 | 10 | 10 |
| Diameter of Well Casing (inches) | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Screen Slot Size (inches) | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Screened Interval (feet) | 78.5-88.5 | 70.5-90.5 | 68-69 | 70.5-90.5 | 61-91 | 06-09 | 59.5-89.5 | 06-09 | 120-140 | 06-09 | 120-140 | 120-140 |
| Depth of Well (feet) | 88.5 | 90.5 | 68 | 90.5 | 91 | 91 | 06 | 89.5 | 06 | 06 | 140 | 140 |
| Distance from WCC-4S* (feet) | 115 | 929 | 220 | 1 | 250 | 200 | 160 | 240 | 525 | 2,020 | 100 | 250 |
| Well No. | WCC-1S | WCC-2S | WCC-3S | WCC-4S (pumping well) | WCC-5S | WCC-6S | WCC-7S | WCC-8S | WCC-9S | WCC-10S | WCC-1D | WCC-3D |

Measured from well locations plotted on site map provided by DAC.

APPENDIX A

FIELD PROCEDURES
AND
AQUIFER TESTING DATA ANALYSIS

APPENDIX A

FIELD PROCEDURES AND AQUIFER TESTING DATA ANALYSIS

A.1 GENERAL INFORMATION

Drilling was performed by two companies: A&R Drilling, Inc. of Carson; and Beylik Drilling, Inc. of La Habra California. Drilling began on 5 June 1989 and was completed on 30 June 1989. Soil sample borings and shallow observation well borings were drilled using a CME-75 drill rig equipped with 6-1/2 inch O.D. hollow stem augers for soil sampling and 11-inch O.D. hollow stem augers for well installation. The deep observation well borings were completed by mud rotary drilling using an Ingersoll-Rand drill rig equipped with a 10-inch tri-cone drill bit.

A.1.1 Shallow Observation Well Installation

Observation Wells WCC-7S, 8S, and 10S were constructed of threaded 4-inch diameter, Schedule 40 PVC casing and screen set to a depth of approximately 90 feet. installed by first drilling a observation wells were sampling borehole with the 6-1/2-inch outside diameter (O.D.) hollow stem augers. In general, soil samples were collected at near-surface, 5 feet and then at approximately 5 foot intervals. Next, these augers were removed from the boring and the 11-inch O.D. hollow stem augers with a wooden plug placed in the bottom were used to ream out the boring Upon reaching total depth to its total depth of 90 feet. the inside of the augers were quickly filled with tap water and the wooden plug was knocked out of the bottom auger. The water was used to form hydrostatic pressure in the augers to help hold out the surging sands which would otherwise fill up the inside of the bottom augers and After knocking out the prevent a proper well installation. wooden plug, the 4-inch diameter wells were installed by inserting the casing into the hollow stem auger and allowing the well casing to rest on the bottom of the boring. Filter pack material (Lone Star No. 0/30) was poured from the surface into the annulus between the casing and hollow stem auger. As filter pack material was introduced into the borehole, the hollow stem augers were slowly withdrawn from the hole to allow the filter pack to fall in place between the well casing and native soil. The same procedure was followed in placing the bentonite plug and the volclay grout backfilling.

A.1.2 Deep Observation Well Installation

Observation Wells WCC-1D and WCC-3D were also constructed of threaded 4-inch diameter, Schedule 40 PVC casing and screen and set to a depth of approximately 140 feet. The wells were installed by first completing a sampling borehole using a wire line coring system which was used to attempt continuous coring from 120 to 140 feet. This sampling system worked satisfactorily on WCC-3D, but had little success in WCC-1D. After completing the sampling borehole, the geologic formation was electrically logged (E-logged) by Geo-Hydro-Data, Inc. of Tehachapi, California. Next, the boring was reamed out to the total depth with a 10-inch diameter drill bit.

Once the boring was completed for the casing installation, the drilling mud was thinned to help break down the mud cake formed on the sidewalls of the boring. In both WCC-1D and WCC-3D the mud was thinned too much on the first attempt, and the boring sidewalls caved in and had to be redrilled. The well casing was placed down the 10-inch boring with centralizers installed at five locations along its length to keep it centered in the boring and not laying against the sidewalls. Filter pack sand was placed outside the screened interval of the casing using 1-1/2 inch diameter tremie pipe

and washing it down with tap water. A bentonite plug was set in the boring on top of the filter pack by pouring 1/4-inch bentonite pellets directly into the boring.

After allowing the bentonite pellets to settle into place the remainder of the annulus was backfilled by tremie pipe with volclay grout up to 8 feet below the surface. The top 8 feet of the annulus was backfilled with concrete.

A.1.3 Well Construction

The observation wells were constructed of 4-inch O.D. Schedule 40 PVC flush-threaded blank pipe, and screened with 0.010-inch slotted PVC screen. Adhesives were not used. The shallow wells were installed with 70 feet of blank casing and 30 feet of screen. The deep wells were installed with 120 feet of blank casing and 20 feet of screen. The well screen was filter packed by pouring or treming the filter material into the borehole from the surface. A filter pack material of Lone Star No. 0/30 sand was selected based on a field sieve analysis. Filter pack analysis and design procedures are discussed in Section C.4. The filter pack was placed from the well bottom to about 5 feet above the top of the well screen.

An approximately 5-foot thick bentonite pellet plug was placed on top of the filter pack, to minimize movement of fluids through the annular space. In addition, volclay bentonite grout was placed in the annulus from the top of the bentonite plug to approximately 8 feet below ground surface. A concrete plug was placed from the top of the volclay to the surface, to minimize seepage of surface fluids into the well and to provide strength to the backfill. The top of the well casings were completed 3 to 6 inches below grade with a waterproof locking well cap and protected with a moisture resistant steel traffic-rated

Christy box. Figure A.O is a schematic of the general observation well design. Appendix D presents the boring logs and graphic well construction details.

A.1.4 Soil Borings

Four soil borings, B-6 through B-9, to collect soil samples for chemical analysis and lithologic logging, were completed in the vicinity of the underground tank cluster, 15T through 18T. Each boring was completed to a depth of 65 feet.

Soil sampling as described in Section A.2 was completed in each boring just below the surface, and at 5-foot intervals to the total depth of each boring.

A.1.5 Soil Boring Backfill

Soil borings B-6 through B-9 were backfilled with silica sand and bentonite powder, at a ratio of 4 to 1. The top 1 to 2 feet of the borings were backfilled with asphalt.

A.2 SOIL SAMPLING

Soil samples were collected at 5-foot intervals in the soil borings and the shallow well borings to make observations regarding subsurface stratigraphic conditions and presence of contamination, to perform field headspace tests, and to conduct laboratory analyses. Soil samples were collected using a modified California sampler that contained four brass tubes. The brass tubes were filled by driving the sampler 18 inches into undisturbed soil with the drop The number of blows required to drive the sampler hammer. 12 inches was recorded on the boring log and used to evaluate the density or consistency of the soil.

Additional soil sampling was completed for logging purposes only in the deep well borings beginning at 120 foot depth

and continuing to 140 feet. This sampling was performed using a wire line coring system which had a 2-inch diameter by 5-foot long split barrel sampler.

A.2.1 OVA Headspace Measurements

In general, one brass tube from each sample was extruded and placed into a sealable plastic bag. The bag was sealed and after approximately 5 to 10 minutes, an organic vapor analyzer (OVA) probe was inserted into the bag, and the vapor concentration in the headspace was measured and recorded on the boring log.

A.2.2 Soil Sample Preparation

One to two tubes from the soil sampler were prepared for laboratory analysis. The ends of the tubes were covered with aluminum foil, plastic end caps, and sealed with electrical tape. Soil samples were labeled with the following information:

- o Project number
- o Project name
- o Boring number
- o Sample number
- o Soil depth
- o Date
- o Sampler's initials

The soil samples were then sealed in Ziploc plastic bags and placed on ice in an ice chest. All of the soil samples were delivered to West Coast Analytical Service, Inc. in Santa Fe Springs, California for analysis. Chain-of-custody procedures, including the use of sample identification

labels and chain-of-custody forms were used for tracking the collection and shipment of soil samples. Copies of the chain-of-custody forms are presented in Appendix C.

A.2.3 Drilling Residuals

Drill cuttings from the soil borings and the shallow well borings were placed in Department of Transportation (DOT) Class 17H 55-gallon drums, and the contents of the drums labeled using a permanent ink marker spray-painted inventory number corresponding to an inventory list compiled by the field engineer. The drums were sealed and stored inside the facility hazardous waste storage area. Drilling mud and soil cuttings produced during installation of the two deep observation wells were pumped into separate roll-off bins next to the wells. Douglas Aircraft was advised of the locations and contents of the drums, and the need for proper management of the drill cuttings.

A.3 FIELD OBSERVATIONS

Observations by Woodward-Clyde Consultants' personnel during the drilling, sampling, and well installation operations were recorded on boring logs, as presented in Appendix B. These observations related to visual soil classifications, geologic and stratigraphic sample descriptions, observation well construction details, sampling efforts, OVA measurements, and other pertinent information.

A.4 FILTER PACK ANALYSIS

The selection of the proper filter pack material and well screen slot size is essential in collecting a sediment-free or low sediment content water sample. In all observation wells, soil samples were collected for sieve analysis. Filter pack design calculations were made based on the grain size distribution of these finest grained soil samples

collected within the designed screen interval and below the ground water table. For observation Wells WCC-1D, 3D, 7S, 8S, and 10S the depths of the samples analyzed were 123, 122, 75, 75, and 80 feet, respectively.

Soil sieve analyses for selection of well screen slot and filter pack size were conducted in the field. Each soil sample was heated with a portable propane stove to evaporate water from the soil. When the sample was dry, it was weighed on a scale to the nearest gram. The soil sample was then poured into the top of an eight sieve stack and shaken for approximately 5 minutes. The sieve sizes used in the analysis are shown in Figure A-1. The soil retained in each sieve was weighed and the cumulative percent retained was calculated for each sieve. The gradation analyses for the wells are illustrated in Figures A-1 through A-5.

A well design using a Lonestar No. 30 sand filter pack and a screen slot width of 0.01 inches (10 slot) was used for the five wells based on the gradation analyses. gradation of filter pack and screen slot width are plotted on Figures A-1 through A-5 along with the actual material sizes used. These ideal sizes were calculated using the well design formulas presented in "Ground Water and Wells" by Driscoll, 1986." A commercially blended filter pack material was then selected that best matched the calculated filter pack curve, since custom made filter pack materials were not readily available. The grain size analysis curves for Wells -1D, -3D, -7S, -8S, and -10S were similar, and the soils were classified as silty sands to sandy silts. lithologic classification also correlated with the field descriptions of WCC--1D, -3D, -1S, -2S, -3S, and -4S.

A.5 WELL DEVELOPMENT

Observation Wells WCC-7S, -8S, -10S, -1D, and -3D were developed by Howard Pumps, Inc. of Barstow, California. Development occurred on 5 through 7 July 1989. During this development WCC-1D was damaged by breaking the bottom plug out of the well while bailing. Due to the formation conditions, sand surged up about 8 feet into the casing. This damage was repaired on 20 July 1989 by filling the well casing with drilling mud and then bailing the sand out of Then a 2-foot plug of bentonite clay was set in the bottom. the bottom of the well by pouring dehydrated bentonite pellets down the well and allowing them to hydrate. the pellets had hydrated, and formed a new bottom plug, the well was redeveloped.

All of the wells were developed, first by bailing and surging, to remove the maximum amount of sediment possible. Next the wells were pumped by submersible pump to remove a large volume of water and assure the ground water around the well was formation water which had not been affected by the The two deep observation wells, WCC-1D well installation. and -3D, required a greater effort in their development because they were installed using mud rotary drilling. Table A-1 the development times, and the ground water volumes removed during development are presented. removed from each well was observed to become clearer during development and was completely clear upon completion of wells from the removed development. Water steel, in one large, development was stored "Baker" storage tank on site near Building No. 41, prior to treatment and discharge.

A.6 GROUND WATER SAMPLING

Two rounds of ground water sampling were completed from all ten of the observation wells. On 11, 12, 24, and 25 July 1989 the first round of sampling occurred (the two deep observation wells were sampled on the later two dates due to the damage of WCC-1D), and on 21 through 23 August 1989 the second round of sampling was completed.

Prior to beginning sampling procedures the static ground water level was measured in each well to the nearest one hundredth of a foot using an electronic well sounder. Then each well was purged, to remove possible stagnant water, by evacuating a minimum of three casing volumes of ground water. This was accomplished by bailing the well with a 3-1/2-inch-diamter PVC bailer attached to new polypropylene rope. The exception to this was the purging of WCA-1D and -3D on the first round of sampling only. These wells were purged by setting a submersible pump in the well and pumping a large volume of water for a final effort in development.

Throughout purging, and just prior to sampling the wells, pH, electrical conductivity or total dissolved solids, and temperature were measured and recorded for the evacuated ground water (Table A-2). These measurements were made to confirm that the wells were purged sufficiently. Sampling was done with a 1-1/2-inch-diameter Teflon bailer suspended from a monofilament line. Water samples were collected from each well in two 40 ml VOA vials.

In addition to water samples, bailer rinse samples were also collected in two 40 ml VOA vials for each well prior to collecting the water samples. The rinse samples were collected for possible analysis to confirm the sampling equipment was satisfactorily decontaminated.

The water samples, rinse samples, and two 40 ml VOA trip blanks for each sampling round, were packed on ice in a portable chest immediately after collection. Samples were delivered on the day following collection to West Coast Analytical Services. Chain-of-custody procedures, including the use of sample identification labels and chain-of-custody form, were used for tracking the collection and delivery of the samples. The chain-of-custody form is presented in Appendix C.

A.7 EQUIPMENT DECONTAMINATION PROCEDURES

Soil and ground water sampling equipment was decontaminated between sampling events using the following procedure:

- Brush-assisted water rinse to remove soil and mud (soil sampling only)
- 2. Water wash with Liquinox
- 3. Deionized water rinse to remove Liquinox
- 4. Second rinse with deionized water
- 5. Dry with paper towels (soil sampling only).

Prior to use at the site, the brass tubes used in the modified California sampler were cleaned in WCC's laboratory by washing sequentially in dilute sulfuric acid, Liquinox and water, and deionized water. The tubes were then air dried, and stored in sealable plastic bags prior to use at the site. New end caps were carried to the site in sealable plastic bags.

Drill augers or pipes, pumps, bailers, surge blocks, and cables were all steam cleaned prior to working on each boring or well. Steam cleaning was performed by the drilling companies on the facilities steam cleaning pad.

A.8 SLUG TESTING

Slug tests were conducted on observation Wells WCC-4S, -5S, -7S, -8S, -9S, -10S, -1D, and -3D on 19 July, 30 August, and 4 October 1989. Slug testing is a relatively quick and cost-effective method of measuring actual field hydraulic conductivity (K) values. Slug test derived hydraulic conductivity (K) values are not as accurate as aquifer pump test derived values, however, they are useful in preliminary calculations and in identifying large anomalies in hydraulic conductivity (K) values.

Slug tests only measure the average horizontal hydraulic conductivity (K) in the immediate vicinity of the well. In comparison a pump test stresses the aquifer at a greater radial distance, and as a result, a more representative hydraulic conductivity value (K) is obtained.

The slug tests were performed using the following equipment:

- o DL-120-MCP Envirolabs data logger with a 25 psi pressure transducer
- o One 3.25-inch diameter x 39-inch-long sand weighted mandrel with a 1.4 gallon volume
- o Steel tripod and polyethylene rope

The weighted mandrel was used with the tripod and rope to simulate a slug of water being inserted and withdrawn from the well. The pressure transducer and data logger recorded the subsequent drawdown and recovery water level measurements of the well. One cycle of drawdown and recovery was performed on each observation well.

Data from the slug tests were evaluated using the Bouwer-Rice method (June 1976) for calculating hydraulic conductivity (K). Bouwer and Rice developed a procedure

that considers the effects from partially penetrating wells, the radius of the gravel pack, and the effective radius of influence of the test.

The Bouwer and Rice method entails solving the following equation:

$$K = \frac{r_c^2 \ln(R_e/R_w)}{2Lt} \ln(Y_o/Y_t)$$

Where:

K = hydraulic conductivity

 r_c = radius of well casing

 R_{\bullet} = effective radius of influence

 $r_{...}$ = radius of the well boring

= length of screened interval or saturated thickness
if entire screen is not saturated

t = arbitrarily selected time from drawdown/time
 semi-log plot

y = initial drawdown at time t = 0, from drawdown/ time
 semi-log plot

The term R_{\bullet}/r_{w} , which is a function of the radius over which the drawdown in the well is dissipated, was solved using the following equation:

$$\ln(R_{\bullet}/r_{w}) = \left[\frac{1.1}{\ln(H/r_{w})} + \frac{A + B \ln[(D-H)/r_{w}]}{L/r_{w}}\right]^{-1}$$

Where:

- D = thickness of aquifer
- A = constant based on value of L/r_w (see Figure A-22)
- B = constant based on value of L/r_w (see Figure A-22)

The test data were plotted on a semi-log diagram of drawdown (Y_t) versus time (t), drawdown being logarithmic (see Figures A-6 through A-21). The data should generate a straight line, although a flat "tail" is frequently observed. A drawdown (Y_t) is recorded for a selected time (t) within the straight line segment of the plot. Y_t and t are used in solving the equation for K.

The Bouwer and Rice method makes the following assumptions:

- 1. The aquifer is of constant thickness.
- 2. The soil is homogeneous and isotropic.
- 3. Flow is horizontal in the aquifer.

These assumptions are judged to be generally reasonable, recognizing that variations in aquifer thickness and anisotropic conditions will have an influence on calculated results.

A.9 PUMP TEST

The pumping well, WCC-4S, was selected because it is centrally located to the surrounding observation wells. In addition information collected during slug testing indicated the well would have a relatively high yield. Wells WCC-1S, -4S, -6S, -7S, -8S, -9S, and -1D served as observation wells.

Details of the well design for the existing ten shallow observation wells and the two deep observation wells are summarized in Table A-3. Depth of groundwater and distance to the pumping well is also included. Figure 2 shows the locations of the wells.

A 1-1/2 horsepower submersible pump was used to pump water from WCC-4S. The pump was switched on at 12:00 p.m. on 20 December 1989 and allowed to pump at 13.3 gpm for 16 hours and 30 minutes. At this rate the water level was nearly stable at a drawdown of approximately 6 feet.

The evacuated groundwater was stored in two 21,000-gallon transportable steel storage tanks. Storage requirements were estimated based on well development activities which indicated a maximum pumping rate of 4 to 5 gallons per Assuming a pumping rate of up to 10 gallons per minute, Woodward-Clyde initially ordered one storage tank and figured if and when a second storage tank was required, it would be more than 24 hours after the pumping began. Because the pumping rate was greater than 10 gpm the second storage tank would have been needed before the tank rental company could respond to our request, if the 13.3 gpm pumping rate was sustained. Therefore, the flow rate was reduced to 8.5 gpm for 4-1/2 hours. After the second tank was delivered to the site, the flow rate of 13.3 was resumed and maintained for the remainder of 30 total hours of "pumping". The overall time weighted pumping rate was approximately 12.6 gal/min. The pump was switched off at 6:00 p.m. on 21 December 1989. Measurements in the pumping well and all the monitoring wells continued until WCC-4S had recovered 99 percent of its maximum drawdown, two hours after the pump was shut off.

Water was pumped to the surface and approximately 400 feet horizontally to the storage tanks. The volume of water pumped out of WCC-4S was measured by an in-line totalizer. A total of approximately 28,000 gallons of groundwater was evacuated.

Five of the monitoring wells WCC-4S, -1S, -7S, -8S, and -1D had pressure transducers installed and connected to one of three Terra 8 data loggers to automatically measure and depth to groundwater. In addition. Woodward-Clyde measured the depth to groundwater on regular intervals in all of the observation wells except WCC-1S, -4S, and -1D. This task was performed using a Solonist electric well sounder. In addition barometric pressure readings were collected at regular intervals throughout the pump test using a Swift, Model 477 barometer.

The data from each well showing a discernable reaction were analyzed using one or more of the following techniques: Recovery (Residual Drawdown) plot, Cooper-Jacob Time-Drawdown plot, and/or Distance/Drawdown plot. A summary of the results is previously presented in Table 2. Slug test values obtained earlier are included for reference.

The nearly instantaneous initial drawdown and the subsequent constant drawdown with time, precluded any valid analyses of the pumping stage drawdown in the pumping well WCC-4S.

Nevertheless the recovery data for the pumping well which did appear valid was analyzed using a residual drawdown plotting technique.

This technique utilizes a semi-log plot of the residual drawdown (in feet) vs. the ratio of t/t' (see Figure A-23) where:

t = time since pumping started

t' = time since pumping stopped

The differential change in water level (Δs) is thus obtained from the plot and used in the equation:

$$K = \frac{264Q}{\Delta s \cdot b} \tag{1}$$

where:

 $K = \text{Hydraulic conductivity in gpd/ft}^2$

Q = Pumping rate, in gpm

 Δs = Differential change in water level during one log cycle of time, in feet

b = The aquifer thickness (20.65 feet at WCC-4S)

Data for the observation wells WCC-1S, -6S, -7S, and -8S were analyzed using the Cooper-Jacob Time-Drawdown technique as shown on Figures A-24 to A-27. A calculation of μ (from the well function, Driscoll 1986) showed the technique would be appropriate in general. A Distance/Drawdown plot shows the change in drawdown as a function of distance from the pumping well. The equations used and the calculations are shown with the plot. Analytical methods used are discussed

in the literature (Driscoll, 1986; Walton, 1987). The fundamental equation for hydraulic conductivity is identical to Equation (1) above. Other equations include:

$$T = Kb \tag{2}$$

and

$$S = \frac{0.3Tt_o}{r^2} \tag{3}$$

where:

T = Coefficient of transmissivity, in gpd/ft

 $K = \text{Hydraulic conductivity in gpd/ft}^2 \text{ (Equation [1])}$

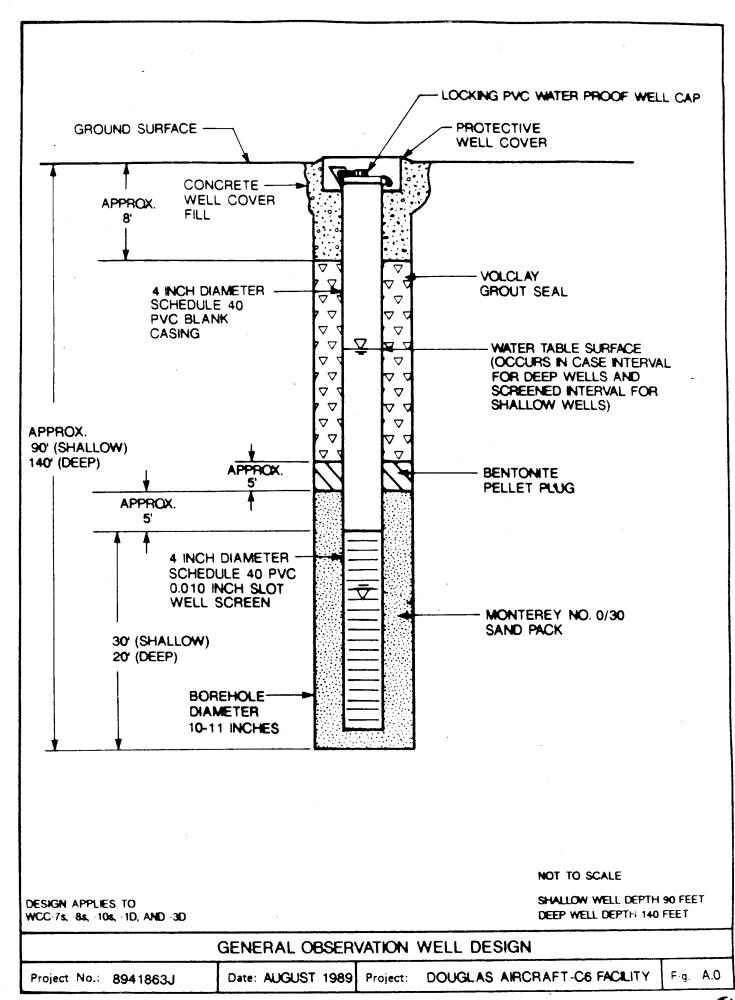
b = Saturated thickness of the aquifer tested in feet

S = Storage coefficient (dimensionless)

 t_o = Time, in days, of the intercept of the extrapolated drawdown curve at zero drawdown

p = Distance, in feet, from pumped well to the
observation well where drawdown measurements were
made

These plots allowed the calculation of both hydraulic conductivity, and storage coefficient according to Equations (1) and (3). The method of plotting and the calculation are shown on Figure A-28.



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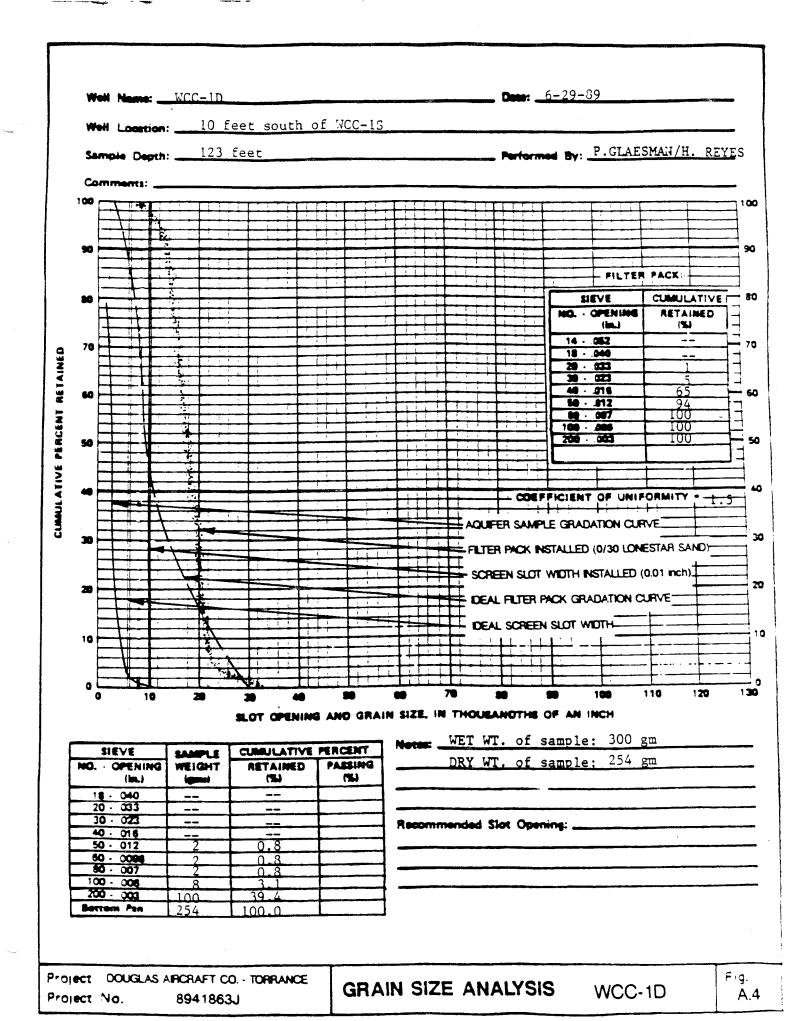
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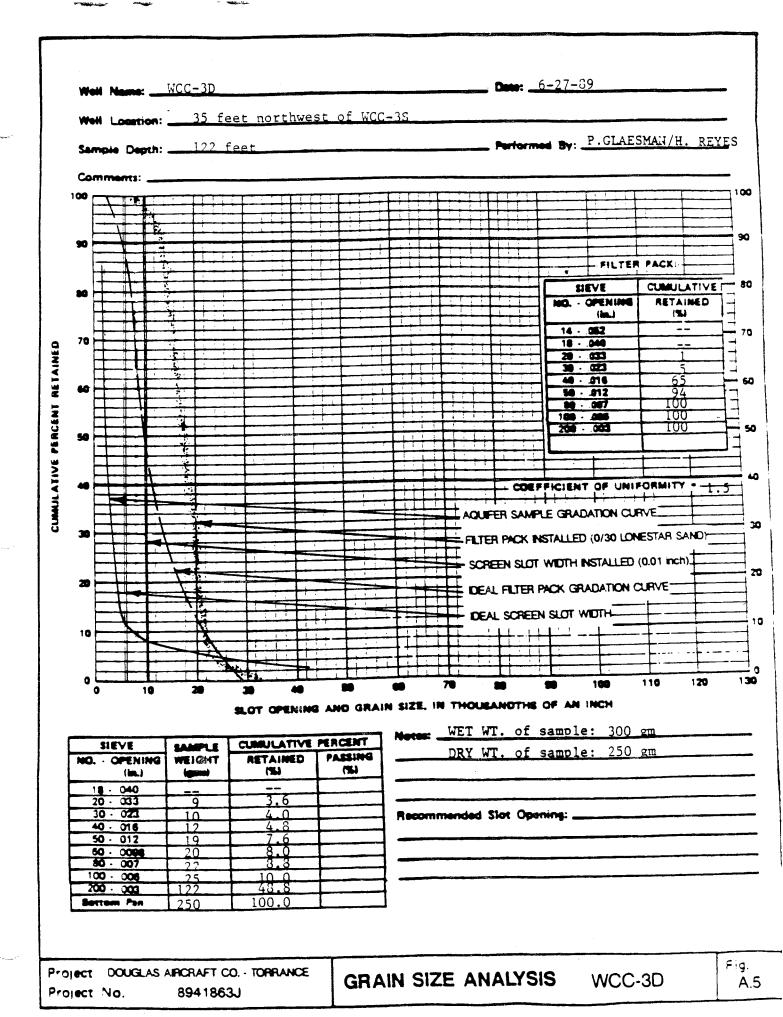
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| | | | - \ \ | | | DEAL | SCREEN S | LOT WIDTH | | |
| 1 | ° | | 1 | | | | | | | |
| | | | | | | | | | | |
| | | | | X | | | | | | _ |
| | 0 10 | 28 | 33 44 | - | - | 76 8 | • * | 100 | 110 120 | |
| | | | SLOT OPENING | AND GRA | N SIZE, IN | THOUSA | NOTHS OF | AN INCH | | |
| | | | · · · · · · · · · · · · · · · · · · · | | Notes: | WET WT | . of sa | mple: 528 | em. | |
| | SIEVE | SAMPLE | CUMPULATIVE | PERCENT | - | | | **** | | |
| N | O. OPENING | WEIGHT | RETAINED | PASSING (%) | | DKI WI | or sa | mple: 450 | O.III | |
| _ | (in.) | (6000) | | 1,20 | | | | | | |
| - | 18 · 040 20 · 033 | - == - | | | | | · | | | |
| _ | 30 - 023 | | | | Recomm | ended Sk | ot Openin | f: | | |
| _ | 40 - 016 50 - 012 | | <u> </u> | | | | | | | |
| | 50012 500088 | | | | | | | | - CANTO | |
| Ξ | 80 - 007 | == | | | | | | | | |
| _ | 100008 200003 | 157 | 35.0 | | | | | | | |
| _ | Settem Pen | 395 450 | 88.0 | | | | | | | |
| | | <u> </u> | 1 177 17 | | • | | | | | |

Project No.

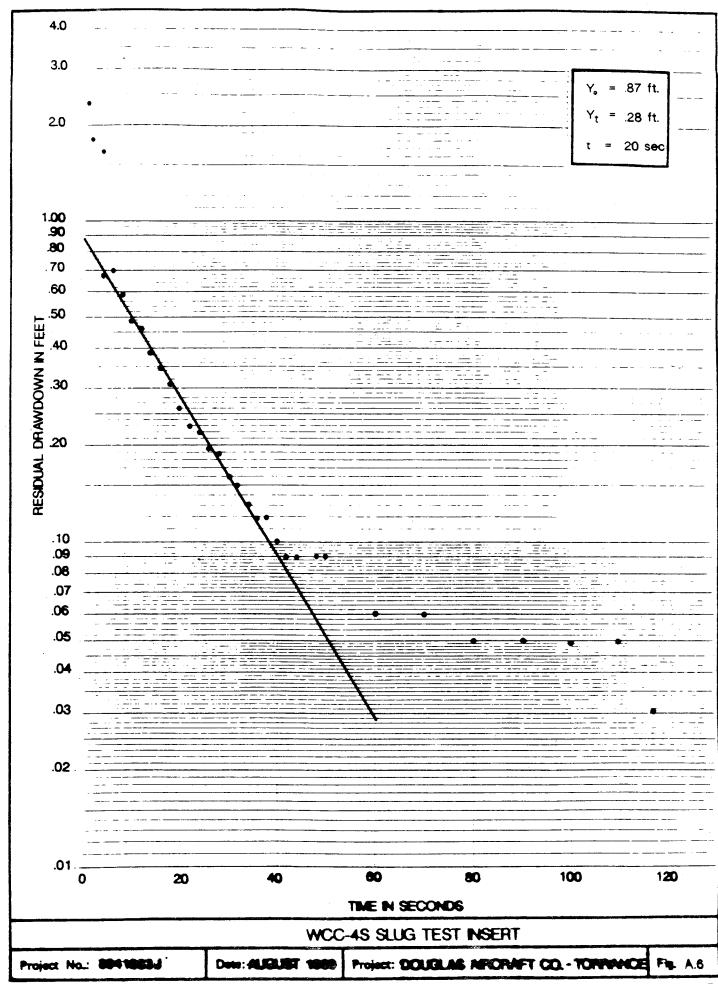
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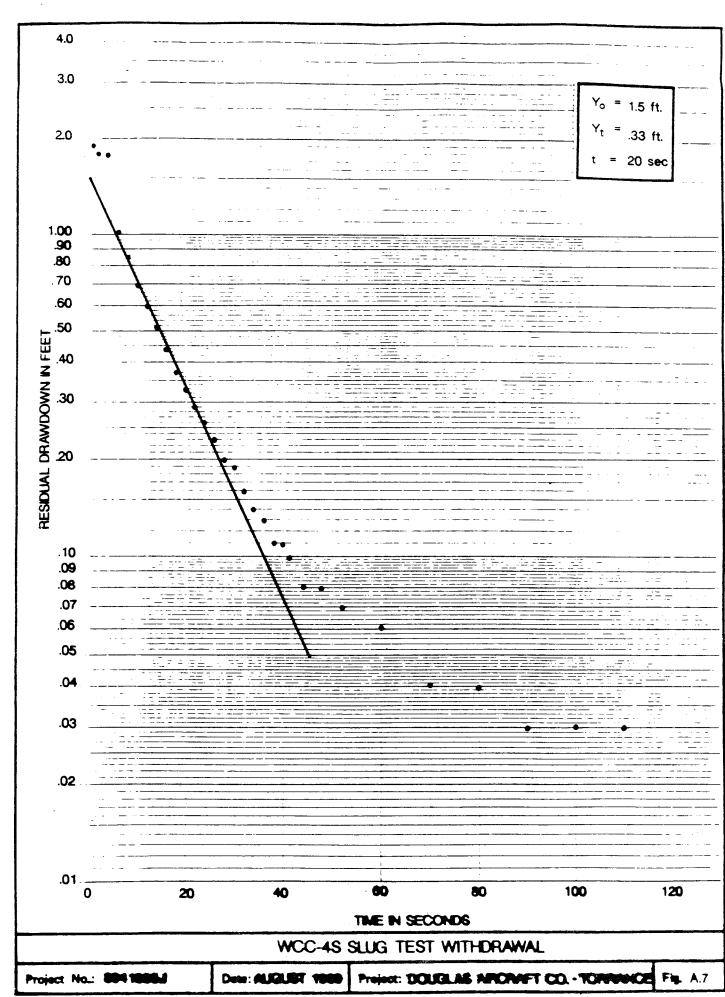


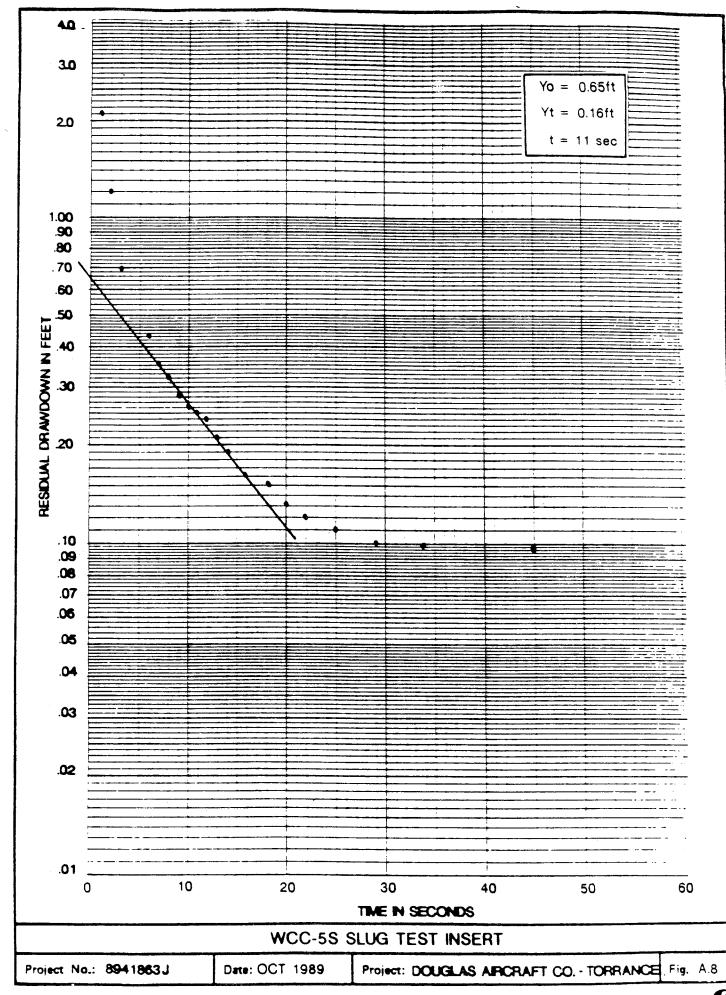
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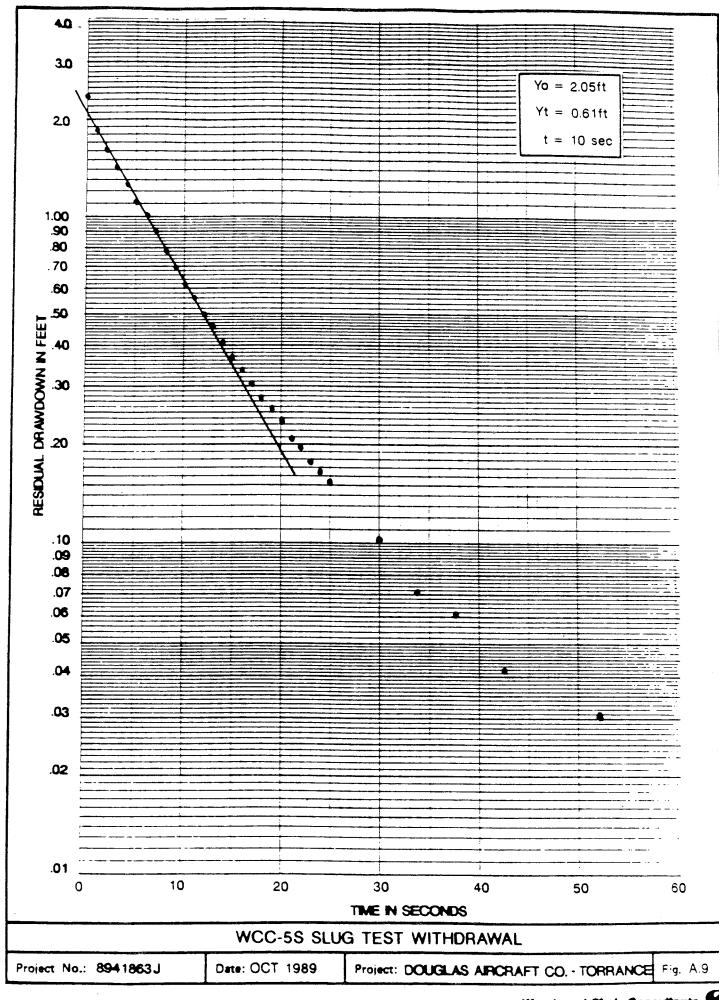


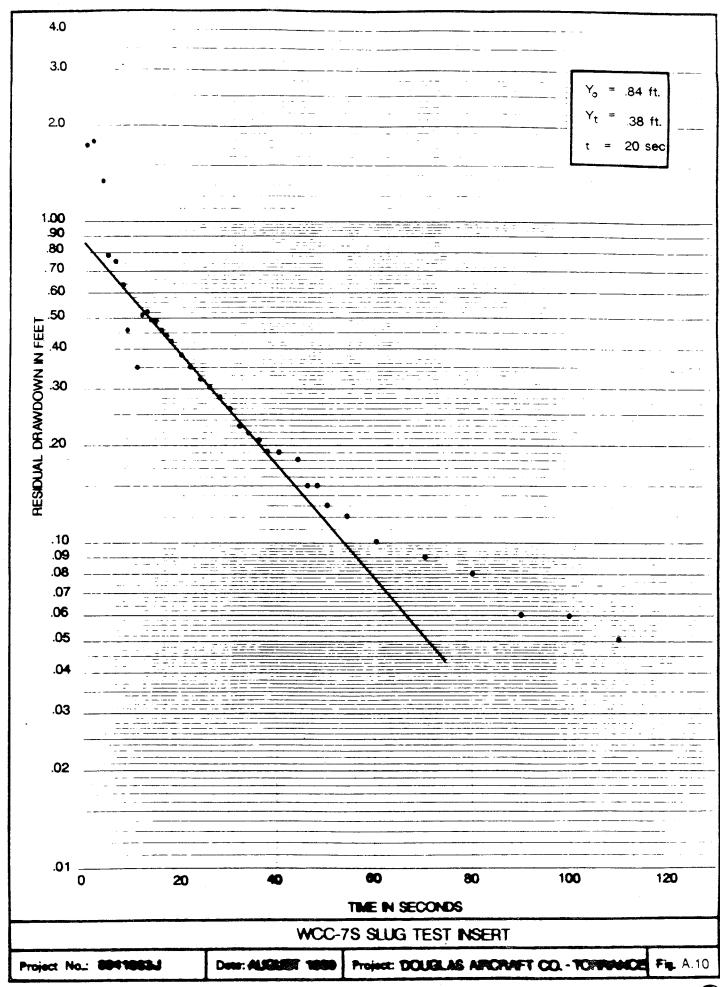
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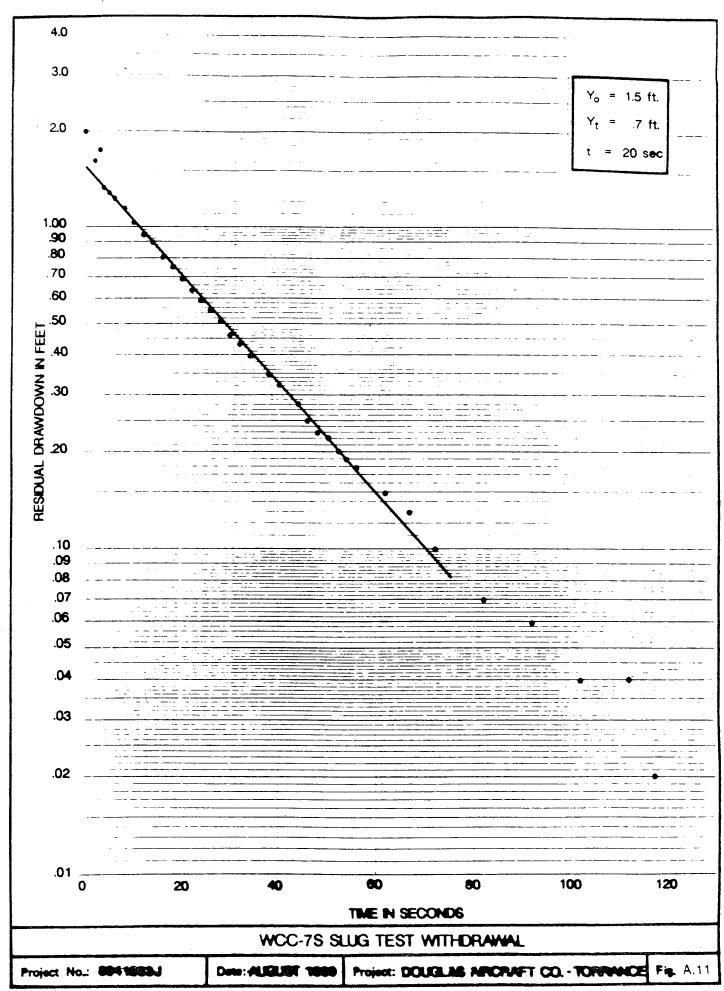


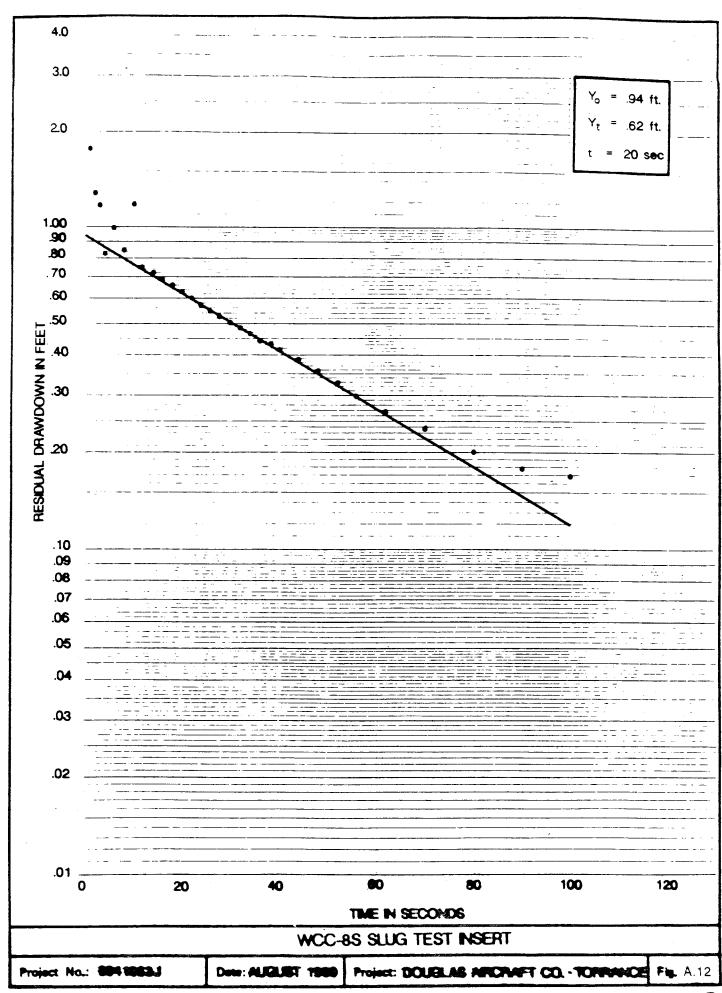


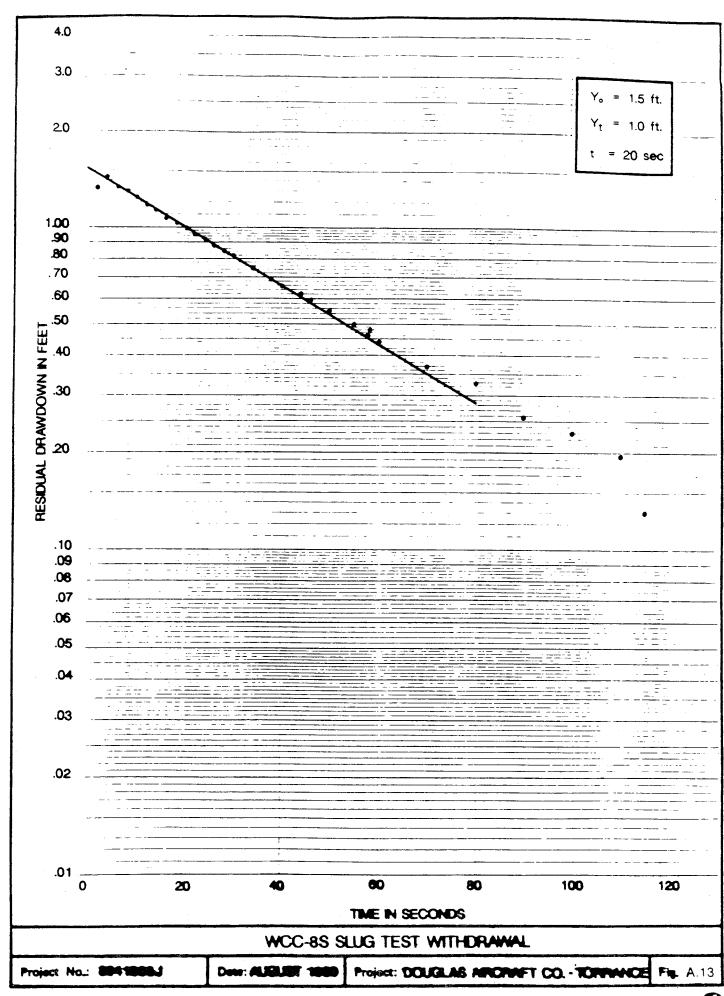


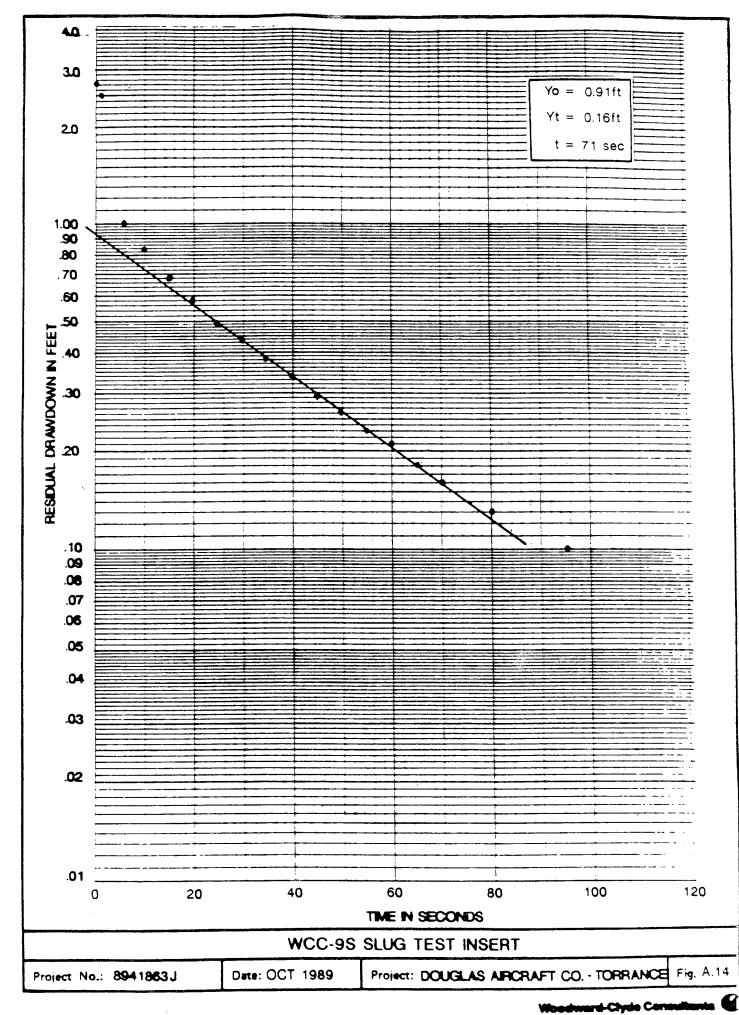


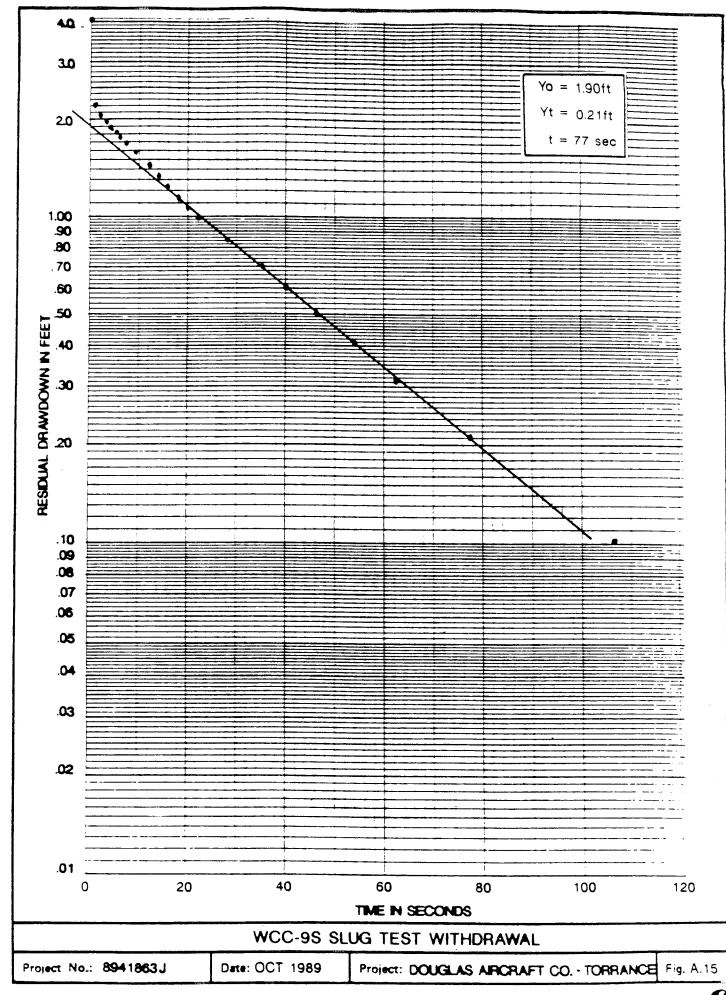


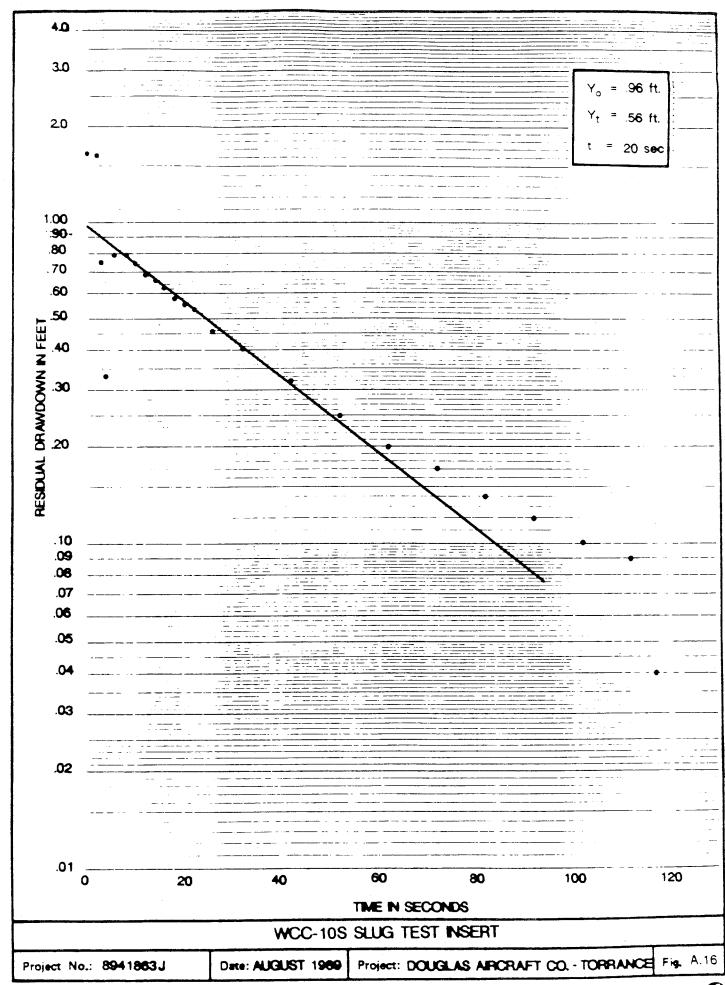


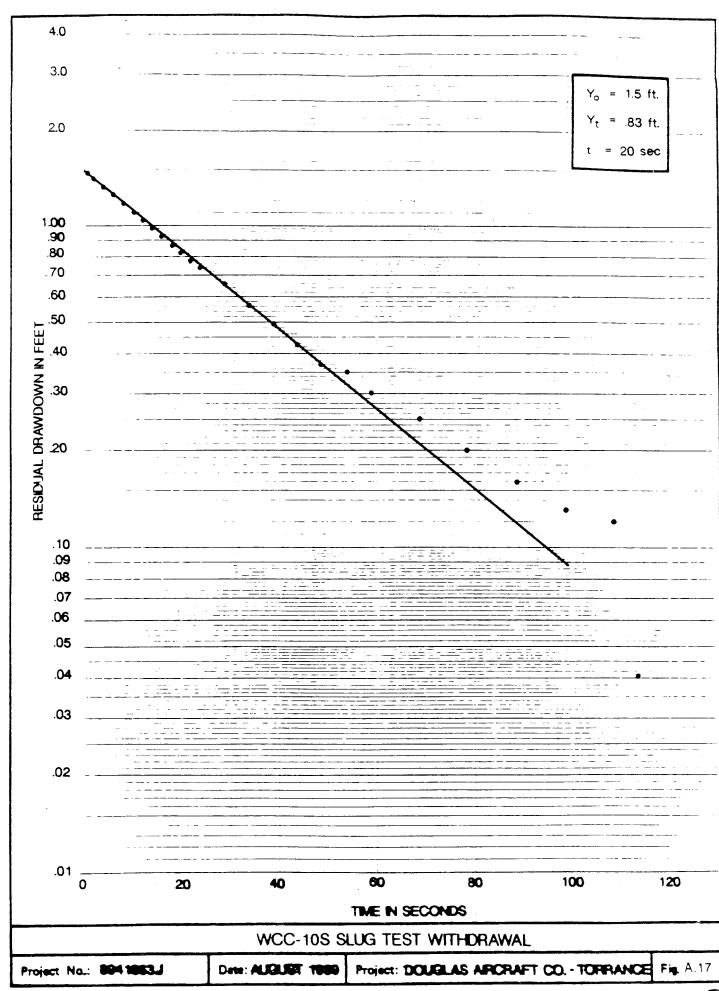


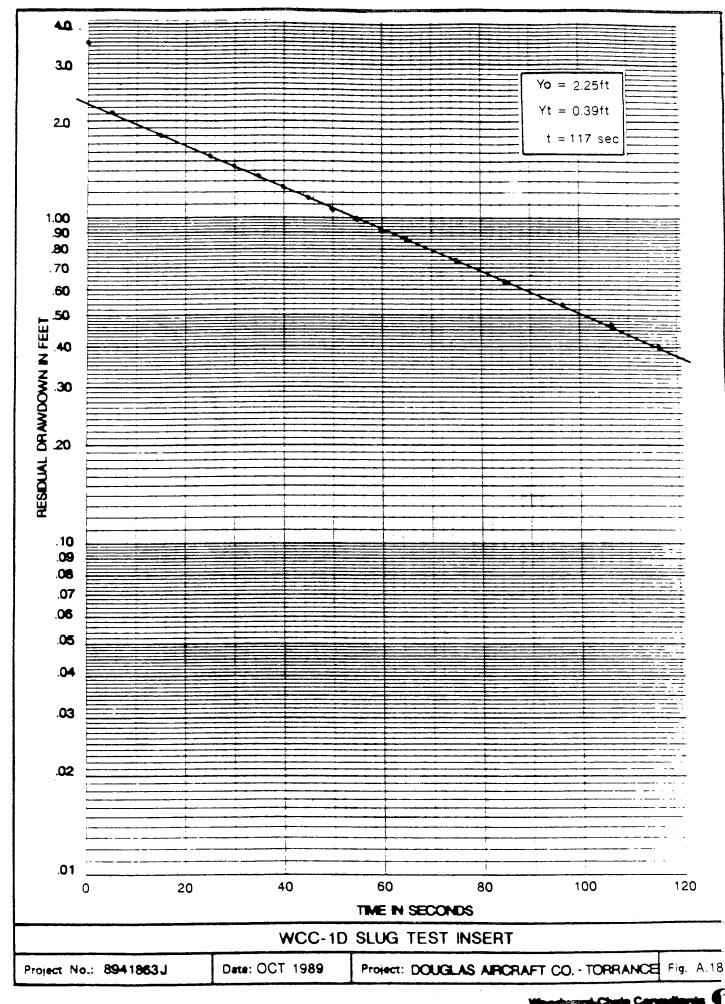


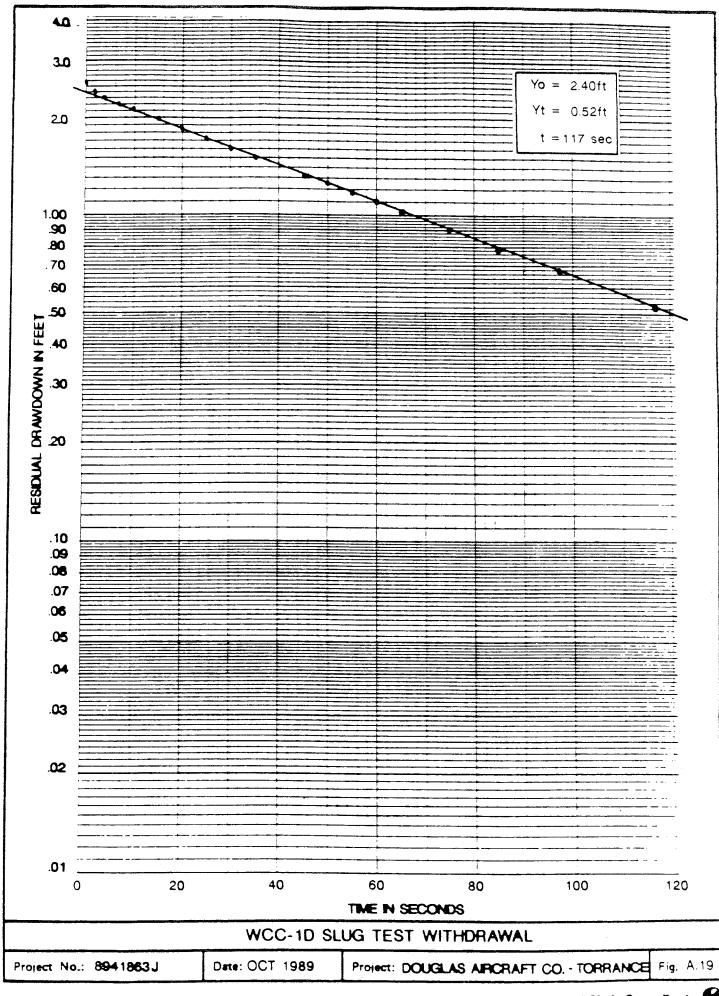


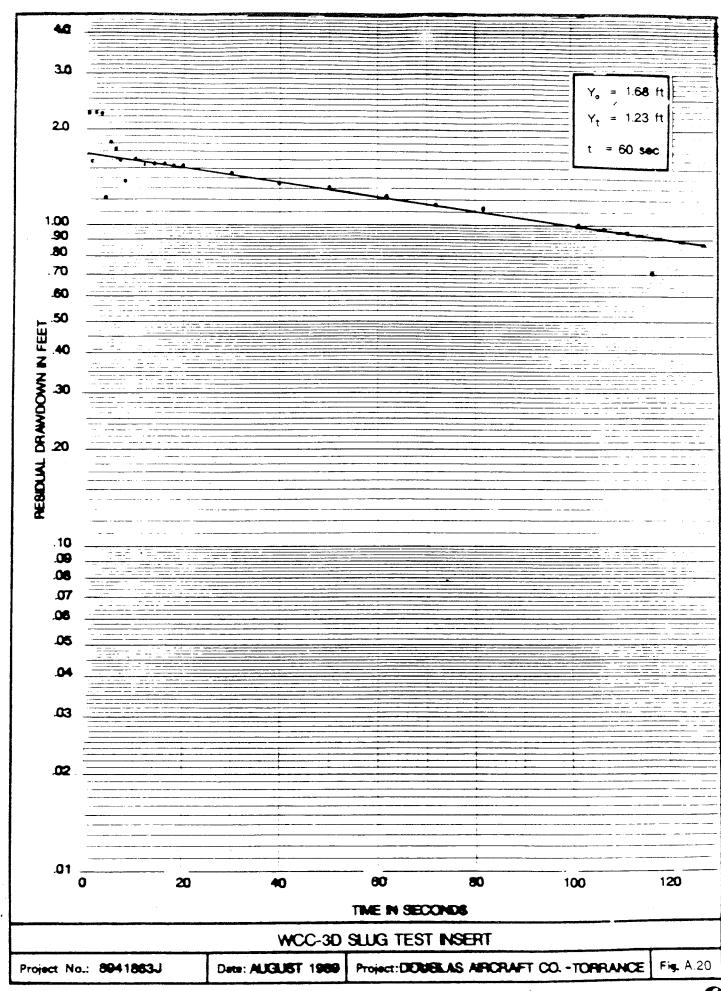


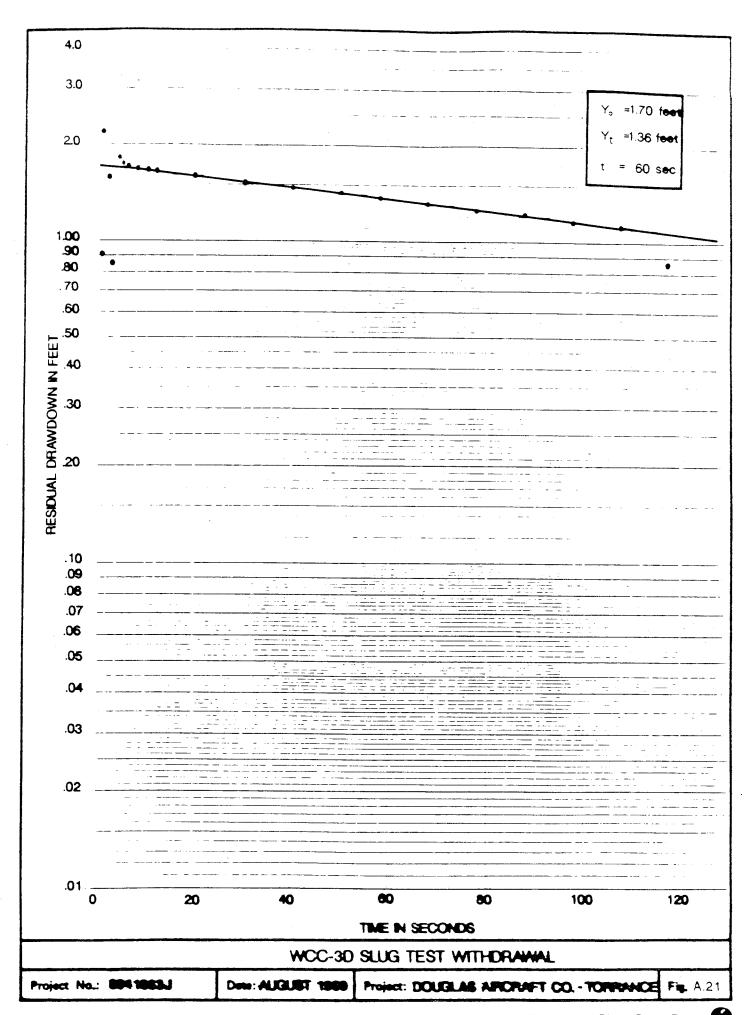


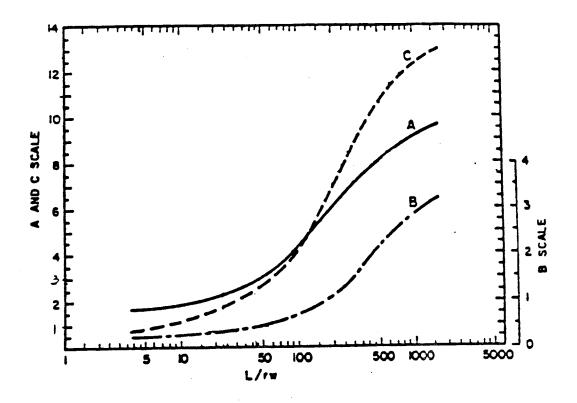












Bouwer and Rice A, B and C Coefficient Curves

Project No.: 8941863J Date: AUGUST 1989 Project: DOUGLAS AIRCRAFT COMPANY Fig. A.22

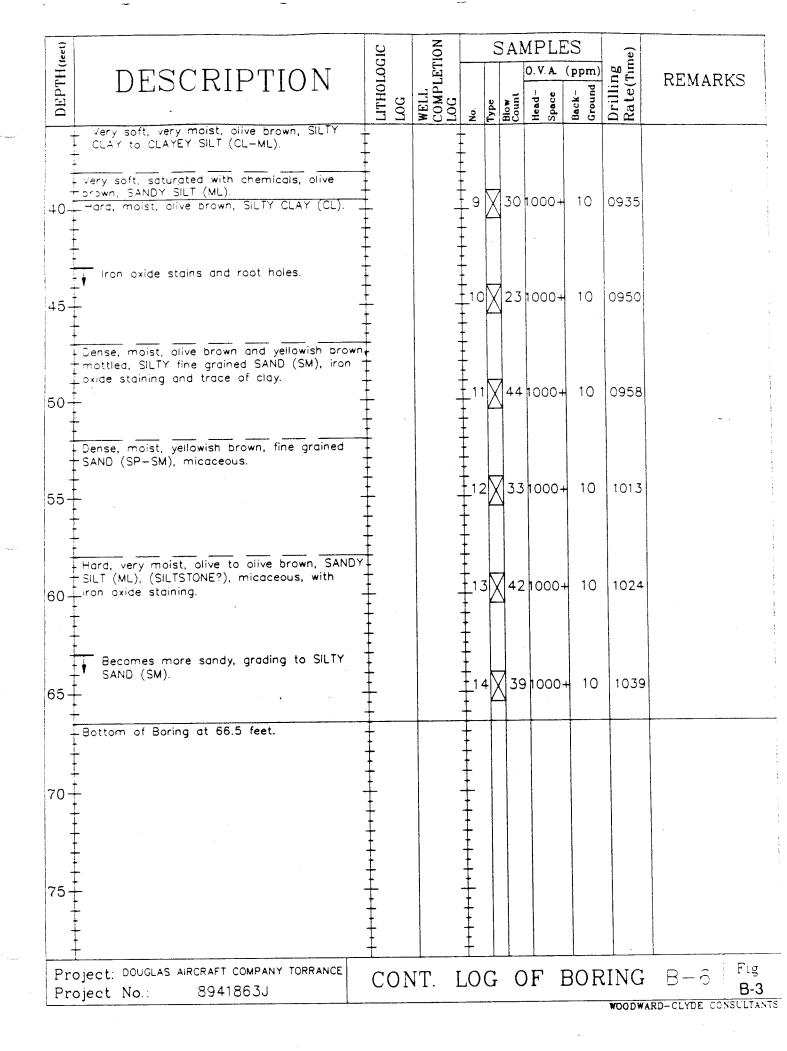
APPENDIX B

BORING LOGS

| BORIN | 10N | | | | ELE | VATION DAT | JM | | |
|------------------|--|----------------|------|-------------|------|-------------------|-----------------|---|---------------------------|
| DRILLI | NG DRILL | LER | | | DA | RTED | | | DATE FINISHED |
| DRILLI EQUIP! | NG EMENT | | | | DEF | APLETIC TH (ft | :) | | ROCK DEPTH (ft) |
| TYPE | CASING: PERFORATION | | | | BOF | METER RING (i | n.) | | DIAMETER OF WELL (in.) |
| No OF | | COF | | | LOC | GED 8 | IY | | CHECKED BY |
| WATER CEPTH | FIRST COMPL. | <u>'24</u> | HRS. | | | | | - · · · · · · · · · · · · · · · · · · · | |
| DEPTH (feet) | DESCRIPTION | | WELL | | | AMPL ORMA | | ime) | REMARKS. |
|)[[} (te | | | LOG | N O | Туре | Blow Count | 0.V.A. (ppm) | Drilling Rate (Time) | |
| | Medium dense, moist, light brown, SILTY fine grained SAND (SM). Unified Soil Classification System (USCS). Sample Identification Number. | | - | | ٨ | | | | |
| 5- | Sample Location and Type. ———————————————————————————————————— | | - | | | Λ | | | |
| 10- | Bentonite Pellets Native Soil | - | | | | | \ | | |
| | Native Soil Monterey No. 0/30 Sand Filter Pack | · · | | | | | | | \wedge |
| 15 | Screen | - | | | | | | | |
| | Modified California Sampler. | • | | | | | | | |
| 20 | Bentonite (Volclay) Grout | - | | | | | | | |
| | Pea Gravel (1/4"-1/2") | | | | | | | | |
| + | Continuous Core Sample | • | | | | | | | |
| 25 | Number of Blows Required to Advance So One Foot using a 140 Pound Downhole H with a 30-inch Drop. | ampler amme | | | | | | | |
| + | Organic Vapor Analyzer (OVA) Readings (field headspace). | <u>-</u> | | | | ···· | | | |
| 30 | Rate at which Drilling Progresses. Time at depths noted. | - | | | | | | | |
| | Remarks or Comments by Driller or Drillin Supervisor. | ng - | | | | | | | |
| 35 | | | • | | | | | | |
| Ì | ject: DOUGLAS AIRCRAFT COMPANY-TORRANCE ject No.: 8941863J | | | KE | Y | ·TC | BOR | ING L | LOG 3- |

WOODWARD-CLYDE CONSULTANTE

| BORI | | | Se | ee Loc | cation Mar | | | | | ELE | VAT D <i>i</i> | ION | App | roxima | itely 5 | 1 Feet above MSL |
|----------------------|---------------------|--------------------|---------------------|--------------------|-----------------------|-------------------------|-------|-------------------|---------------------------|----------------|-------------------|-------------|----------------|-----------------|------------------------|-------------------------------------|
| DRILI AGEN | ING ICY | | | ng, Inc | | DRILLE | R 1 | vi. Ro | omero | DAT | E RTE | D 6 | 5-13- | -89 | DATE FINISI | |
| DRILI | PMENT | СМЕ | . 75 v | with 8 | -inch 0.0 |)., H.S | . А. | | | DEP' | TH | | 0.0 | 5.5 | ROCK DEPTH | H (ft) |
| WELL | CASING | } | · | | SCREEN PERFORATION | ON | 7777 | _ | | BOR | ING | ER (in. |) | 88 | WELL | |
| SAND | SIZE C PACK F | | DIST. | | - UNDIST. | | 0 | F SEA | HICKNESS L(S) | E 700 | | | | ry mixt | | Sand and Bentonite |
| No O SAMP WATE | R | | FIRST | 0 | COMPL | 14 | | ORE 4 HRS | 0 | LOG | |) вү . G | laesm | an | | KED BY |
| DEPT | R H (ft) | ; • | IRS I | | CUMFL | | + | | | - | | Η. | Reyes | 5 | i | . ((42/1/4)00 |
| DEPTH (feet) | | | | | | | | CIC | WELL COMPLETION LOG | | S | | PLE | | ne) | |
| E | | DE | SC | 'RII | PTION | V | |) L O | LE | | | | O. V. A. | | ng (Tu | REMARKS |
| (H.) | | . _ | - ∼ | | ± * * . | • | | LITHOLOGIC LOG | ELL. OMF | | be | Blow | Head- Space | Back- Ground | Drilling Rate(Time) | .7 ° |
| | <u> </u> | 490 | enalt aj | andrete. | | | + | | <u> ≅ŏ</u> | S Z | Ту | င်မျာ | Sp Sp | G B | ā ž | |
| - | Loose | , moist | , olive | brown. | fine to me | | ‡ | | - | ‡, | H | _ | • 00 | 10 | | |
| - | | | | | ND (SP-SM | | + | | - | Ŧ ' | \triangle | 7 | 100 | 10 | 0802 | |
| ;] | | | | | own, mediur | m | + | | - | † | | | | | | |
| - | | |) (SP). | | | | + | | | 1 2 | \bigvee | 2 | 120 | 10 | 0815 | |
| 5- | - · . | | | | | | Ī | | | Ī | \forall | - | | | - | |
| 1 | - - | | | - | | - | 1 | | | Ī | | | | | | |
| + | - - | | | | | | + | | `. | ‡ | | | | | | ₹ . |
| † | 46 + | | - niet | dairk | - aray | | ‡ | | | ‡ , | 1 | | | 10 | | |
| 10 | Stiff t CLAY | | Moist | , guik s | olive gray, | | + | | - | †3 | V | 71 | 1000+ | 10 | 0819 | |
| † | - | ` | | | | | + | | | + | | | | | | |
| + | - - | | | | | | + | | | + | | | | | | |
| ! + | Mediu | m dens | e, moi: | st, dark | yellowish b | brown, | + | | | + | | | | | | |
| 1 ‡ | SILTY | fine gr | ained S | SAND (S | SM), to SAN | 10Y SILT | 1+ | | | <u>‡</u> 4 | \bigvee | 13 | 1000+ | 10 | 0824 | |
| 15 | 🛊 Be | | | | dark oliv e g | gray, | I | | | ŧ | | | - | | | Strong chemical |
| | | | of clo | · | | | Ī | | | Ī | | | | | | odor. |
| - | | | | | dark yellowis | sh brown | 1 | | | Ī | | | | | | |
| + | [to on: - | ve brow | in, Sili | TY CLAY | (CL). | | + | | | 1 | L | | | | | |
| 20 | - - | | | | | | ‡ | | | ‡5 | X | 11 | 1000+ | 10 | 0900 | |
| ‡ | - | | | | | | ‡ | | | ‡ | | 4 | | | | |
| | - | | | | | | + | | | + | | | | | | : |
| | Madiui | m atiff | to stit | ff verv | maist, olive | hrown | \pm | | | Ŧ | | | | | | |
| + | SAND | Y SILT | (ML). | 1, +0.7 | Interes, a | 5 0 1 0 , | + | | | + 6 | \triangleright | 7 | 1000+ | 10 | 0910 | |
| 25 | - | | | | | | + | | - | + | | ′ | 1000. | | 03.0 | |
| 1 ‡ | - | | | | | | + | | | ‡ | | | | | | |
| + | - | | | | | | + | | | ‡ | | | | | | |
| + | | | light | gray, C | CLAYEY fine | grained | 1 | | | † | | | | | | Encountered mixture |
| 30 | SAND | (SC), | | | | | E | | | <u> </u> 7 | X | 1 5 | 1000+ | 10 | 0917 | of silica sand and bentonite powder |
| 130- | - | | | | | | 1 | | | I | 1 | 4 | | | | It is probably the |
| † | | | | | | | + | | | ‡ | | | | | | backfill materia: from adjacent |
| | Very s | soft, ve AYEY S | ery moi SILT (CL | st, olive -ML). | e brown, SIL | LTY CLA | 1 | | | ‡ | | | | | | boring. |
| ++ | - | A 1 La | | - ', | | | + | | | ‡ _ | K | 1 | | | 1 | |
| 35 - | - | | | | | _ | + | - | | ‡ 8 | X | | 1000- | 10 | 0925 | > |
| Pro | niect: | DOUGLA | AS AIRCE | RAFT CO | MPANY TORR | ANCE | | | · · · · · · | <u> </u> | <u> </u> | _ | ח <i>ר</i> | > | ~ | B-6 Fig |
| 1 | oject. oject | | | 394186 | | | | | LUC | ا ند - | U | ۲ _ | BOF | ζ11 <i>ν</i> (| | □ - O |
| L | - | | | | | | | | | | | | | | WOODW | ARD-CLYDE CONSULTANTS |



| BORING See Location Map | | | ELEVA AND [| TION | , App | roxima | tely 5 | 1 Feet above MSL |
|---|--------------|---------------------------|-------------------------|--------------|----------------|-----------------|----------------------|---------------------------------------|
| DRILLING A & R Drilling, Inc. DRILLING DRILLING DRILLING DRILLING DRILLING | R M. R | omero | DATE START | ED | 6-13 | | DATE FINIS | HED 6-13-89 |
| TYPE OF SCREEN | 5. A. | · | COMPI DEPTH DIAME | I (ft) | • | 6.5 | | H (ft) |
| WELL CASING PERFORATION TYPE/SIZE OF SAND PACK | TYPE/T | HICKNESS L(S) | BORIN | G (in | ı.) | 8 | WELL | ETER OF |
| No OF SAMPLES DIST. O UNDIST. 14 | CORE | 0 | LOGGE | D BY | (| | | KED BY |
| WATER FIRST COMPL — | 24 HRS | _ | - | | laesm _Reye | | N | 1. Razmajop |
| DESCRIPTION | CIC | NOI | S | SAN | 1PLE | S | le) | |
| DESCRIPTION |)TO(| LET | | | O. V. A. | (ppm) | ng Tim | REMARKS |
| | LITHOLOGIC | WELL COMPLETION LOG | No. Type | Blow | Head Space | Back- Ground | Drilling Rate(fim | TUDMARTIC |
| 5-nch Asphalt concrete. | <u> </u> | ≥53 | No. | \ <u>#</u> 3 | Sp. | G. Ba | 고공 | |
| ery tsiff, moist, dark yellowish brown to gark gray, CLAY (CH). | + | | 1 🛚 | 15 | 60 | 20 | 1142 | |
| Becomes mottled with iron oxide stains | Ť | | |] | | | | |
| and black stains of decomposed roots. | <u>+</u> | | 2 🛚 | 23 | 80 | 20 | 1149 | |
| Hard, moist, dark yellowish brown, SILTY | + | | - / | 4 | | | | |
| CLAY (CL). | ‡ | | - | | | | | |
| Ī | + | | - | | | | | |
| 10 + | Ŧ | | 3 | 32 | 90 | 20 | 1155 | |
| + | ‡ | | - | 4 | | | | : |
| | + | | - | | | | | |
| + | ‡ | | - | | | | | |
| 15 Hara, moist, dark yellowish brown, SANDY | ‡ | <u> </u> | -4 X | 39 | 90 | 20 | 1202 | |
| SILT (ML). | - | | - | | | | | |
| + | İ | | - | | | | | |
| † † | + | + | | A | | | | |
| 50 + | + | 1 | _5 🛚 | 24 | 110 | 20 | 1209 | |
| | + | | - | | | | | - 1 |
| | ‡ | | | | | | | |
| ‡ | + | + | | 4 | | | | |
| 25 🕂 - | ‡ | 1 | _6 X | 17 | 120 | 20 | 1215 | : |
| Ī | + | + | - | | | | | : |
| Ţ | <u> </u> | 1 | | | | ~ | | |
| ‡ | † | + | | | | | | |
| Medium dense, moist, olive brown, SILTY | - | $\frac{1}{4}$ | - / X | 2/ | 1000+ | 20 | 1224 | Strong chemical odor. |
| fine grained SAND (SM). | ‡ | 1 | - | | - | | | |
| - | ‡ | <u> </u> | | | | | | |
| ÷ | + | ‡ | 8 🗸 | 24 | 1000+ | 20 | 1231 | |
| District A DOUGLAS AIRCRAST COMPANY TORRANGE | <u> </u> | | - ° | Z# | 1000+ | 20 | 1231 | · · · · · · · · · · · · · · · · · · · |
| Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project No.: 8941863J | | LOG | OF | 7 J | 30R | ING | | B-7 Fig B-4 |
| 33 33 | | ······ | | | | | | RD-CLYDE CONSULTANTS |

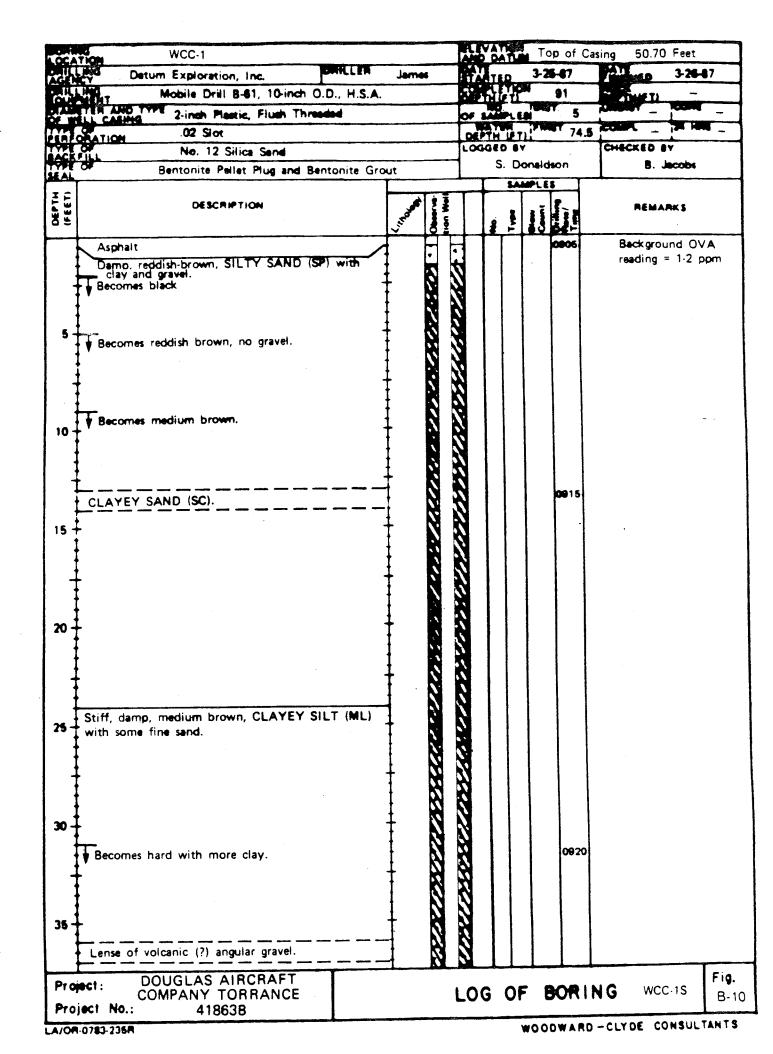
| (eet) | | 310 | NOI | | | SAN | иРL | ES | ne) | |
|-------------|---|--|---------------|---|----------|---------------|----------------|----------------|-----------------------|-----------------------------------|
| DEPTH(feet) | DESCRIPTION | JTHOLOGIC OG | L PLETION | | | | O. V. A. | (ppm) | Drilling Rate(Time | REMARKS |
| DEI | - | LITH | WELL COMPI | № | Type | Blow Count | Head- Space | Back- Grour | Dril Rate | |
| - | Medium dense, moist, office brown, SILTY fine_grained SAND (SM). | | | ++ | | | | : | | |
| + | nard, moist, dark yellowish brown, SILTY CLAY (CL), (SILTY CLAYSTONE?), micaceous, with iron oxide spotting and hairlike root noles. | + | | + + + + + + + + + + + + + + + + + + + | X | 32 | 1000+ | 20 | 1240 | |
| 45- | Becomes olive color. | | | + + + 10 | X | 24 | 1000+ | 20_ | 1251 | |
| 50- | Medium dense, moist, mottled with olive gray and yellowish brown, SILTY fine grained SAND (SM), with trace of clay and iron oxide staining. | - - - - - - - - - - - - - - | | † † † † † † † | X | 20 | 1000+ | 20 | 1304 | |
| 55 | Becomes medium grained with abundant shell fragments, strong HCL reaction. | + - - - - - - - - - - - - - - - - - - - | | 12 | X | 36 | 1000+ | 20 | 1316 | |
| 60 | | | | 13 | X | 28 | 1000+ | 20 | 1329 | |
| 65 | Medium dense, moist, olive gray, SILTY fine grained SAND (SM-ML), very micaceous. | | | 14 | X | 27 | | | 1342 | |
| 70+ | Bottom of Boring at 66.5 feet. | - | | + | | | | | | |
| + | | + | | + + + + + + + + + + + + + + + + + + + | | | | | | |
| 75 | - - | + | | + | | | | | | |
| ; | ject: DOUGLAS AIRCRAFT COMPANY TORRANCE ject No.: 8941863J | CON | T. I | 700 | <u>;</u> | 0 | F E | 30 R | | B-7 Fig B-5 RD-CLYDE CONSULTANTS |

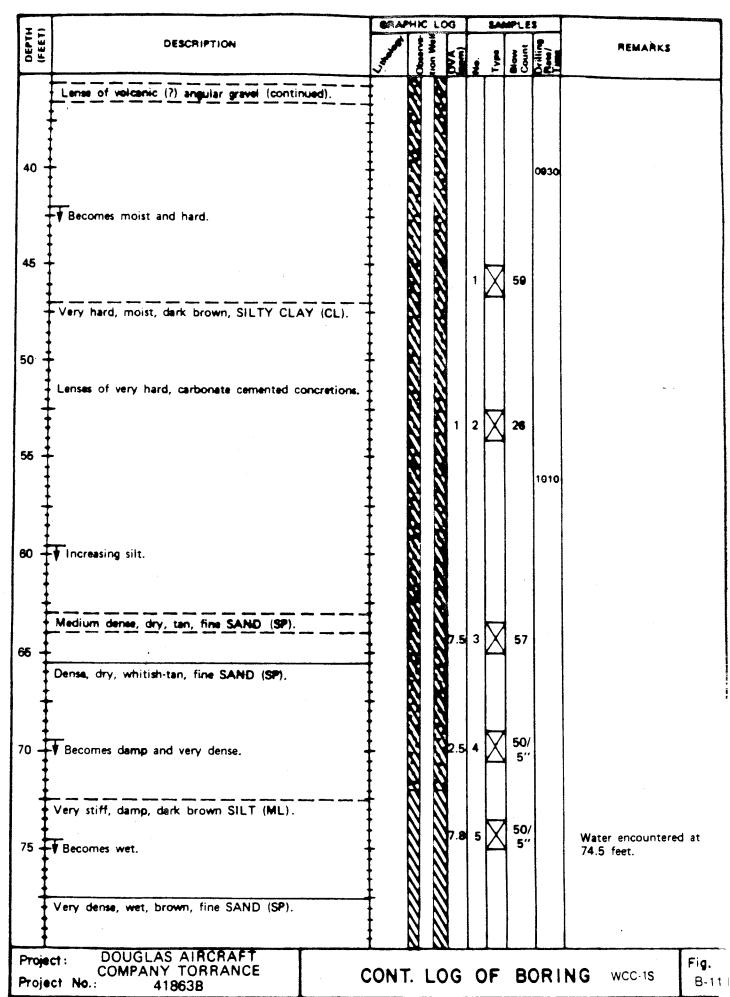
| BORING | N See Location Map | | | ELEV | VAT DA | ON TUM | Appr | oxima | tely 51 | Feet above MSL |
|--------------------------------|--|----------------|---------------------------|--------------|--------------|----------------------|----------------|--------------|------------------------|----------------------|
| DRILLING | A & N Diming, inc. | 191. 170 | mero | STA | TE | D 6 | 5-14- | | DATE | IED 6-14-39 |
| DRILLING EQUIPME TYPE OF | ENT CIVIL 75 WITH S-MEN C.D., 18.3. | A. | | DEP' | TH | TION (ft) ER O | 0, | 5.5 | ROCK DEPTH DIAME | I (ft) TER OF |
| WELL CA | ASING PERFORATION | TYPE/THOF SEAL | IJCKNESS | BOR | ING | (in. |) | 8 rv Mixt | WELL | |
| SAND P. No OF SAMPLES | DIST. 0 UNDIST. 14 | CORE | 0 | LOG | GEL | BY | | | CHECH | (ED BY |
| WATER DEPTH (| FIRST COMPI | 24 HRS. | | | | | aesm Reyes | | М | . Razmajoo |
| (eet) | | <u></u> | WELL COMPLETION LOG | | S | AM | PLE | S | (e) | |
| | DESCRIPTION | 000 | LET | | | | 0. V. A. | (ppm) | ng Tim | REMARKS |
|)EPTH(teet) | | LITHOLOGIC | ELL OMP OG | | ě | Blow Count | Head- Space | ck- ound | Drilling Rate(Time) | |
| | 6-nin Asphalt concrete over 6-inch base | | ¥5¥ | 2 | Ţ, | ಹೆಲಿ | 왕 장 | B G | <u> </u> | |
| <u> </u> | material. | + | - | | abla | 16 | 18 | 12 | 0745 | |
| | ery stiff, moist, very dark brown, SANDY LAY (CL), with root holes. | - | - | Ī | \triangle | | | | | |
| <u> </u> | Becomes hard. | + | | + | | | | | | |
| 5 -1 | | <u></u> | - | <u>†</u> 2 | \boxtimes | 43 | 47 | 12 | 0758 | |
| | ense, moist, yellowish prown, CLAYEY fine rained SAND (SC). | <u> </u> | | İ | | | | | | |
| | ard, moist, dark brown, SILTY CLAY (CL), | + | | + | | | | | | ~ . |
| + w | th root holes. | ‡ | | + 3 | | 58 | 42 | 10 | 0906 | |
| 10 + | | + | - | +3 | Å | 20 | 42 | 12 | 0806 | |
| + | | <u> </u> | | Ī | | | | | | |
| | edium stiff, moist, olive brown, SANDY LT (ML). | + | | + | | | | | | |
| + - | - | ‡ | | ‡ • 4 | | 11 | 45 | 1.2 | 0015 | |
| 15 + | - | + | - | +4 | A | 1.1 | 45 | 12 | 0815 | |
| + | <u></u> | Ī | | Ī | | | | | | |
| 1 2 | ery stiff, moist, dark brown, SILTY CLAY (CL ith hairlike root holes. | } | | + | | | | | | |
| <u> </u> | | ‡ | | ‡ † 5 | | 21 | 20 | 12 | 0820 | |
| 20 + | - | + | | + ~ | | 21 | 20 | 12 | 0020 | |
| + Ve | ery stiff, moist, dark brown, SILTY _AY (CL) with hairlike root holes. | <u> </u> | | Ī | | | | | | |
| T | LAY (CL) with ndirlike root noies. | ‡ | | + | | | | | | • |
| + | | <u>.</u> | | † 6 | | 15 | 42 | 12 | 0826 | |
| 25+ | | + | | +" | | 1,2 | 72 | '- | 10020 | |
| | ery stiff to hard, moist, dark olive brown, LTY CLAY (CL), with calcareous nodules | Ī | | Ī | | | | | | |
| | nd hairlike root holes. | ‡ | | + | ļ | | | | | |
| ± | | - | | Ŧ , | | 26 | 58 | 12 | 0833 | |
| 30 ∓ | | † | | + ′ | 1 | ادع | | '- | | |
| <u> </u> | | Ī | | Ī | | | | | | |
| + Ve | ery dense, moist, dark olive brown, SILTY ne grained SAND (SM), with large calcareous | | | ‡ | | | | | | |
| † no | odules. | + | | † 8 | \downarrow | 86 | 68 | 12 | 0841 | |
| 35 + | | ± | | ± _ | <u> N</u> | 123 | | | | |
| | ect: Douglas aircraft company torrance ect No.: 8941863J | | LOC | J . | 0] | F | BOI | RIN | G | B-8 Fig. B-6 |
| 11016 | | | | | | | | | WOODW | ARD-CLYDE CONSULTANT |

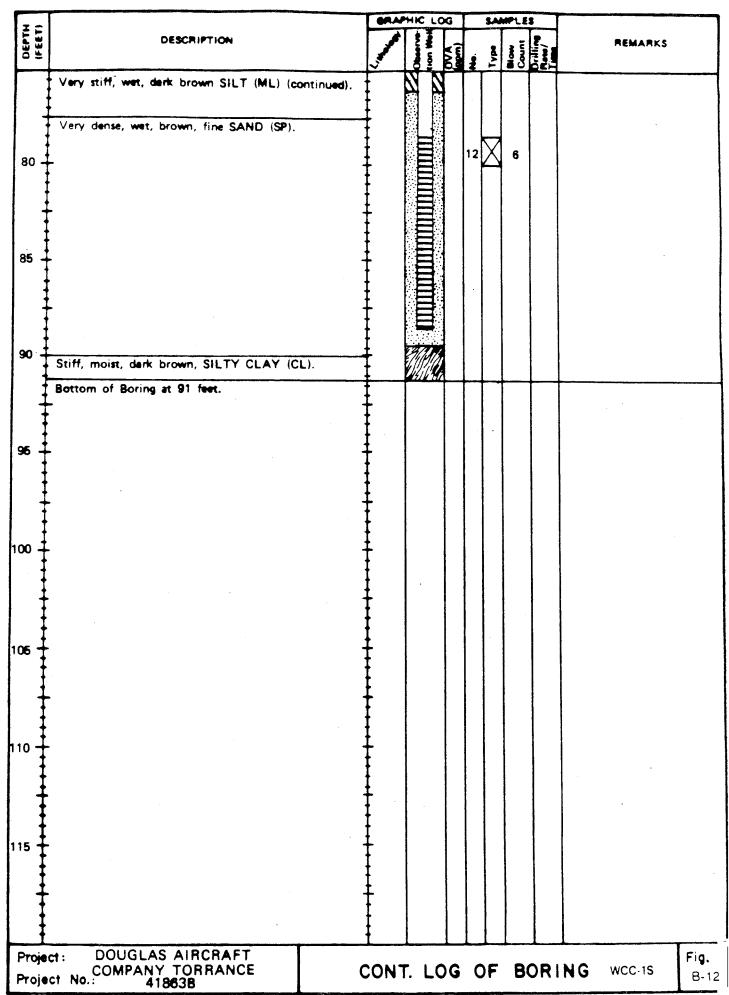
| feet) | | CIC | | LION | | S | | 1PLI | | ne) | |
|-------------|---|---|--------|---------------------------|---|--------|----|-------------------|----------------------|------|------------|
| DEPTH(reet) | DESCRIPTION | THOLOGIC | .0G | WELL COMPLETION LOG | No. | ype | ŀ | Head- Space Y. | Back- dd Ground H | | REMARKS |
| + | Very dense, moist, dark olive brown, SILTY fine grained SAND (SM), with large palcareous nodules. | <u> </u> | | <u>.</u> | Ž | Ę G | υ | I S | B 5 | T (R | |
| 40 | | + | | - | 9 | X | 39 | 125 | 12 | 0848 | |
| + | Very stiff to hard, moist, olive, SANDY CLAY (CL), with iron oxide stains and calcareous | - - - - | | - - - | - | | | | | | |
| 45 | nodules. (Strong HCL Reaction) | + | | - | 10 | X | 29 | 230 | 12 | 0857 | |
| i + | Medium dense, moist, olive gray and yellowish brown mottled, SILTY fine grained SAND (SM): (SP), with iron oxide staining, micaceous. | + | | - | <u> </u> | | • | | | | |
| 50 + | | + | | - | + + 11 + 11 | X | 24 | 100 | 12 | 0912 | - . |
| 55+ | Becomes dense, medium grained with abundant iron oxide, calcareous nodules, and shell fragments cemented. | + | | - | ‡ ‡ ‡ 12 | X | 35 | 1000 | + 12 | 0925 | |
| + | Very dense, moist, yellowish brown, medium grained SAND (SP). | +++++++++++++++++++++++++++++++++++++++ | | | † + + + | | | | | | |
| 60 | | ‡ ‡ | | - | ‡ ‡13 | 3 | 85 | 1000 | + 12 | 0934 | |
| + | Hard, moist, olive, SANDY SILT (ML), (SILTSTONE?), micaceous. Dense, moist, yellowish brown, medium graine | 4 | | | + | | | | | | |
| 65 | SAND (SP). Dense, moist, olive, SILTY fine grained SAND (SM). | + | | | <u>+</u> 1' | * X | 35 | 1000 | + 12 | 0952 | |
| | Bottom of Boring at 66.5 feet. | + | | | + | | | | | | |
| 70 + | - - | +++++++++++++++++++++++++++++++++++++++ | | | +++++++++++++++++++++++++++++++++++++++ | | | | | | |
| | | +++++++++++++++++++++++++++++++++++++++ | | | +++ | | | | | | · |
| 75 | - | ++++ | | | +++++ | | | | | | |
| Pro | ject: Douglas aircraft company torrance ject No.: 8941863J | t C | 10 | NT. | LO | ⊥ G | C | ⊥)F | BOF | RING | B-3 Fig. |

| BORING See Location Map | | ELEVATIO | N App | roxima | itely 51 | Feet above MSL |
|--|---------------------------|---------------------|-----------------------------|-----------------|---------------|----------------------|
| DRILLING A & R Driling, Inc. DRILLER M. | Romero | DATE STARTED | 6-14- | -89 | DATE | |
| DRILLING EQUIPMENT CME 75 with 8-inch O.D., H.S.A. TYPE OF - SCREEN | | COMPLET DEPTH (f | t) 0 | 5.5 | ROCK DEPTH | (ft) — |
| WELL CASING PERFORATION | - /THICKNESS EAL(S) | BORING (| in.) | .8 Irv. mixt | WELL (| |
| SAND PACK - OF SINO OF UNDIST. 14 CORE | | LOGGED | BY | 1 | CHECK | ED BY |
| WATER FIRST _ COMPL _ 24 H | IRS _ | ļ- | Glaesm I. Reyes | | M. | Razmdjee |
| (red) | 10N | SA | MPLE | S | re) | |
| DESCRIPTION § | L.E.T. | | 0. V. A. | (ppm) | ng Tim | REMARKS |
| | LOG VELL COMPLETION LOG | No. Type Blow | Count Head- O Space Y | ack- round | rilli kate | |
| 5-nch Asphalt concrete over 9-inch base material. Medium stiff, saturated, dark brown, SiLTY | | 1 \ 6 | | 19 | 1107 | |
| CLAY (CL). Becomes very stiff. | | | | | | |
| 5 + + + + + + + + + + + + + + + + + + + | - | 2 2 2 | 1 100 | 19 | 1112 | |
| Becomes hard. | | 3 \ 4 | 7 100 | 20 | 1120 | |
| Becomes more silty, very stiff. | | 4 🕅 2 | 6 100 | 20 | 1124 | |
| Medium dense, moist, olive brown, SILTY fine grained SAND (SM). | | | | | | |
| Stiff to very stiff, moist, olive brown, SANDY SILT (ML), micaceous. | - | 5 3 | 100 | 20 | 1130 | |
| Very stiff, moist, dark olive brown, SILTY CLAY (CL), with iron oxide spotting and root holes. | | 6 1 | 6 130 | 20 | 1137 | |
| Medium dense, moist, olive brown, SILTY fine | | 7 2 | 130 | 20 | 1145 | |
| grained SAND (SM). | | 18 2 | 21 125 | 20 | 1153 | |
| Project: Douglas aircraft company torrance Project No.: 8941863J | LOC | GOF | BOF | RING | , , | B-9 Fig. B-8 |
| 110,600 110 03 410000 | | | | · | WOODWA | RD-CLYDE CONSULTANTS |

| DEPTH(feet) | DESCRIPTION Medium dense, moist, olive brown, SILTY | LITHOLOGIC | WELL COMPLETION | No. | | AN Count | Head- Space Space | Back- (S Ground Wd (S | Drilling Rate(Time) | REMARKS |
|-------------|---|--|--------------------|---|---------|----------|----------------------|--------------------------|------------------------|----------------------------------|
| 40 | fine grained SAND (SM). Hard, moist, dark olive brown, SILTY CLAY (CL), micaceous. | + - - - - - - - - - - - - - - - - - - - | | 9 | X, | 68 | 120 | 20 | 1202 | |
| 45 | Becomes very stiff, olive, with iron oxide spotting and decomposed roots. | | | 10 | | 25 | 130 | 20 | 1211 | |
| 50 | Dense, moist, mottled, olive gray and yellowist brown, SILTY fine grained SAND to SAND (SW-SP), with iron oxide staining. | + | | + 11 | X | 45 | 340 | 20 | 1224 | |
| 55 | yellowish brown, fine to medium grained SAND (SP), micaceous. | + + + + + + + + | | 12 | X | 42 | 900 | 20 | 1235 | Moderate Chemicsi odor. |
| 60 | Dense, damp to moist, olive gray, SILTY fine grained SAND (SM), very micaceous. | † + + + + + + + + + + + + + + + + + + + | | 13 | X | 46 | 490 | 20 | 1250 | |
| 65 | Hard, moist, olive, SANDY SILT (ML), (SILTSTONE?), micaceous. | + | | 14 | X | 30 | 1000 | + 20 | 1303 | |
| 70 | Bottom of Boring at 66.5 feet. | + | | +++++++++++++++++++++++++++++++++++++++ | | | | | | |
| 1 | ject: Douglas aircraft company torrance ject No.: 8941863J | CON | IT. | ± LO(| <u></u> | 0 | F I | ⊥ 30R | | B-9 Fig B-9 ARD-CLYDE CONSULTANT |







| A & R Drilling, Inc. Medium Stiff, very moist, olive brown, Stiff Color change to yellowish brown. Sample Color change Color ch | ORING OCATION | | WCC-2 | See Figure | | | | ELE | VATION D DATU | u To | p of | casing @ 50.59 ft | t. |
|--|------------------|-------------------------------------|----------------------|----------------------------------|---------|---------|----------|----------|------------------|----------------|----------------------|--------------------------|-----|
| COLOR TO, 10 - Inch H.S.A. COMP 4" Sch. 40 PVC PERGANNE DEST. — MOREL 5 DOWN — M | RILLING | A & | R Drilling, | | | M. Smi | th | DA ST | TE NRTED | 10-2 | 8-87 | DATE 10-28-8 | 37 |
| The state of the s | | | | A3400 | S.A. | | | COL | MPLETIC | N 9 | 0.6 | ROCK | |
| DESCRIPTION REMARKS REMARKS DESCRIPTION REMARKS 1308 Background OVA reading = 5 ppm Color change to yellowish brown. Becomes stiff, more moist. Continued SANDY CLAY (CL). Less stiff, more moist. DESCRIPTION TO SAMPLE NOT COMPANY DESCRIPTION 1308 REMARKS 1308 1308 1308 1317 1317 1317 DESCRIPTION 1308 DESCRIPTION REMARKS 1308 DESCRIPTION REMARKS 1308 DESCRIPTION REMARKS 1308 DESCRIPTION REMARKS 1308 1308 1308 1308 1308 DESCRIPTION REMARKS 1308 1308 1308 DESCRIPTION REMARKS 1308 1308 1308 1308 1308 DESCRIPTION REMARKS 1308 1308 DESCRIPTION REMARKS 1308 DESCRIPTION REMARKS 1308 DESCRIPTION REMARKS 1308 DESCRIPTION REMARKS 1308 1308 DESCRIPTION REMARKS 1308 DESCRIPTION REMARKS 1308 DESCRIPTION REMARKS 1308 DESCRIPTION 1308 REMARKS 1308 1308 DESCRIPTION 1308 D | YPE OF | - 4" Sc | | | | 0 Slot | | DIA | METER | OF | | DIAMETER OF 4 | |
| DESCRIPTION DESCR | OF | DIST | | UNDIST. | | | | | XXXII 8. | Y | | CHECKED BY | |
| DESCRIPTION MEDITOR M | AMPLES ATER | FIRS | <u> </u> | <u> </u> | 24 | HRS. 71 | 1 | 1 | F | H. Rey | es | B. Jacobs | |
| DESCRIPTION WELL LOG ASPINATION ASPINA | erii (n) | | /3 | | | /! | . 1 | | | _ | | _1 | |
| Asploit Medium stiff, very moist, dork yellowish brown. Becomes very dork grayish brown. Color change to yellowish brown. Becomes stiffer leas moisture, SANDY CLAY (CL). Continued SANDY CLAY (CL). Continued SANDY CLAY (CL). Medium stiff, very moist, olive brown, SLTY (CLAY). Medium stiff, very moist, olive brown, SLTY (CLAY). LOG OF BORING WCC-2S Fig. 1333 | OEP IH (reet) | | DESCRIPT | NOF | | | | NF | ORMA | TION O.V.A. | illing ate (Time) | REMARKS | |
| Medium stiff, very moist, dark yellowish brown. SANDY CLAY (CL). Becomes very dark grayish brown. Color change to yellowish brown. Becomes stiffer less moisture. SANDY CLAY (CL). Continued SANDY CLAY (CL). Less stiff, more moist. Continued SANDY CLAY (CL). Medium stiff, very moist, olive brown, SLTY CLAY. 1319 Crades to SILTY CLAY (CL). Medium stiff, very moist, olive brown, SLTY CLAY. 1323 1327 1327 1333 LOG OF BORING WCC-2S Fig. 1333 | | | | | | _ | ž | F | 西 び | (ppm) | | | |
| Continued SANDY CLAY (CL). Less stiff, more moist. 1319 Grades to SiLTY CLAY (CL). Medium stiff, very maist, olive brown, SILTY CLAY. 1323 1327 1327 Project: DOUGLAS AIRCRAFT COMPANY Project No.: 87418630 | Me SA | edium stiff, NDY CLAY Becomes | (CL). very dark gri | ayish brown. rish brown. Beco | omes | | | | | | 1308 | | |
| 25 CLAY. 1323 1327 1327 1333 Project: DOUGLAS AIRCRAFT COMPANY Project No.: 87418630 LOG OF BORING WCC-2S B- | 20 | more moi | st. | | ff. | | | | | | | | |
| Project: DOUGLAS AIRCRAFT COMPANY Project No.: 8741863D LOG OF BORING WCC-2S B- | | dium stiff, | | | TY | | | | | | 1323 | | |
| Project: DOUGLAS AIRCRAFT COMPANY LOG OF BORING WCC-2S B- | 30 | | | | | | | | | | 1327 | 7 | |
| Project No.: 8741863D | † | | | | | | 1 | | | | 133 | 3 | |
| Project No.: 8741863D | Projec | t: DOUGLA | S AIRCRAI | T COMPANY | | | 1 | \cap C | : OF | ROF | SING | WCC-2S | |
| | • | | | | | | <u>_</u> | | , 01 | JON | | | B-1 |

| Continued) Stiff, malet, alive brown, SILTY CLAY (CL). Dense, malet, alive brown, fine grained, SILTY SAND (SM), with shells. 1 X 34 5 1342 Very dense, dame, strong brown, fine grained grained SAND (SM), iron oxide staining. 1 X 34 5 1342 Very dense, dame, strong brown, fine grained staining. 1 X 34 5 1342 1 X 34 5 1342 1 X 34 5 1342 Very dense, dame, strong brown, fine grained staining. 1 X 34 5 1342 Very dense, dame, strong brown, fine grained (SM), iron oxide staining. 1 X 34 5 1342 Very dense, strong brown, fine grained staining. 1 X 34 5 1342 Very dense, strong brown, fine grained, strong brown, strong br | DEPTH (feet) | DESCRIPTION | WELL | ģ | Type | Blow Count | 0.V.A. (ppm) | Drilling Rate (T.) | REMARKS | |
|--|-----------------|---|------|------|------|---------------|-----------------|-----------------------|---------|------|
| SILTY SAND (SM), with shells. 1 | 40- | (continued) - Stiff, moist, olive brown, SILTY CLAY (CL). | | | | | · | | | |
| Very dense, damp, strong brown, fine grained SAND (SP) to SILTY SAND (SM), fron oxide staining. 1 Very dense, damp, strong brown, fine grained SILTY SAND (SM), fron oxide staining. 1 Very dense, damp, strong brown, fine grained SILTY SAND (SM), some iron oxide staining. 1 Very dense, moist, olive, fine grained SILTY SAND (SM), some iron oxide stains. 3 X 42 6 1433 1 500 Water at 73 feet SILTY SAND (SM). 1 Very dense, wet, olive brown, fine grained, SILTY SAND (SM). Project: DOUGLAS AIRCRAFT COMPANY CONT. LOG OF BORING WCC-2S Rides | 45- | SILTY SAND (SM), with shells. | | 1 | X | 34 | 5 | 1342 | | |
| Very dense, damp, strong brown, fine grained SILTY SAND (SM). Becomes SILTY SAND. Becomes SILTY SAND. Becomes Wet. 75 Very dense, wet, olive brown, fine grained, SILTY SAND (SM). SILTY SAND (SM). Project: DOUGLAS AIRCRAFT COMPANY CONT. LOG OF BORING WCC-2S Fig. 8:14 | 50- | | | | | | | 1357 | | |
| Becomes Siltry SAND. 55 Dense, moist, olive, fine grained SILTY SAND (SM), some iron oxide stains. 3 X 42 6 1433 70 1500 Becomes wet. 75 Very dense, wet, olive brown, fine grained, SILTY SAND (SM). 4 X 68 6 1512 Project: DOUGLAS AIRCRAFT COMPANY CONT. LOG OF BORING WCC-2S Fig. Bit4 | 55- | grained SAND (SP) to SILTY SAND (SM). | | 2 | X | 60 | 5 | 1402 | · | |
| Dense, malst, olive, fine grained SILTY SAND (SM), some iron oxide stains. 70 Becomes wet. 75 Very dense, wet, olive brown, fine grained, SILTY SAND (SM). Project: DOUGLAS AIRCRAFT COMPANY CONT. LOG OF BORING WCC-2S Fig. B.14 | 60- | | | | | | | 1423 | | |
| Becomes wet. 75 Very dense, wet, olive brown, fine grained, SILTY SAND (SM). 80 Project: DOUGLAS AIRCRAFT COMPANY CONT. LOG OF BORING WCC-2S Fig. R.14 | 65- | Dense, moist, olive, fine grained SILTY SAND | | 3 | X | 42 | 6 | 1433 | | |
| Very dense, wet, olive brown, fine grained, SILTY SAND (SM). 80 Project: DOUGLAS AIRCRAFT COMPANY CONT. LOG OF BORING WCC-28 Fig. R-14 | 70- | | | | | | | 1500 | | |
| Project: DOUGLAS AIRCRAFT COMPANY CONT. LOG OF BORING WCC-2S Fig. B-14 | 75- | Very dense, wet, olive brown, fine grained, | | 4 | . \ | 68 | 6 | 1512 | = | teet |
| Project BOOKING WCC-25 BLIA | | | | | | | | 1544 | | Fig |
| Project No.: 8741863D | 1 | | CONT | Γ. L | 00 | G 0 | F BO | RING | wcc-2s | B-14 |

| OEPTH (Pet) | DESCRIPTION | WELL | No. | Type | Blow Count | 0.V.A. (ppm) | Drilling Rate (T.) | REMARKS |
|----------------|--|---|----------|------|---------------|-----------------|-----------------------|---|
| 85 | (continued) Very dense, wet, olive, fine grained to very fine grained SILTY SAND (SM), micaceous, with some clay interbedding and iron oxide staining. | | 5 | X | 50/ 3" | 5 | 1600 | |
| 90 | | 自 | | | | | | |
| 95 | Battom of Boring at 90.5 feet. | † † † † † † † † † | | | | | | Note: 48 gallons of city water used to offset hydrostatic head of flowing sands during well installation. |
| 100 | | + | | | | | | |
| 105 | | * * * * * * * * * * * * * * * * * * * | | | | | | |
| 110 | | + | | | | | | |
| 115- | | † † † † | | | | | | |
| 120- | | +++++++++++++++++++++++++++++++++++++++ | | | | | | |
| 125 | | † | | | | | | |
| | ject: DOUGLAS AIRCRAFT COMPANY | CON | <u> </u> | | G O | F BO | L. RING | WCC-2S Fig |
| Pro | ject No.: 8741863D | | | | | | | DOOWARD-CLYDE CONSULTANTS |

| BORING LOCATION | | W | CC-3 | See | Figure | 2 | | | ELE | VATION DATUS | , To | op of | | | 51.1 | 9 ft. | |
|------------------------|---------------------------------------|------------------------|------------------|--------------------|--|------------|---|----|------|------------------------------------|----------|-------------------------|-----------|----------------|---------------|-------|------|
| DRELING IAGENCY | A & | : R [| rilling, | · | DRILLE | | Smit | h | DAT | E RTED | 10-2 | 6-87 | DA Fin | TE ISHED | | 6-87 | |
| DRILLING EQUIPEMENT | | (| ME 75 | , 10-i | nch H.S | S. A. | | | COM | PLETION | H | 92 | RO | OK PTH (fl) | | _ | |
| TYPE OF WELL CASING | 4" S | ch. 4 | O PVC | SCREEN PERFORA | TION | .010 | Slot | | DIAN | ETER (| OF .} | 10 | DV WE | METER (|)F | 4 | |
| No OF SAMPLES | | ST. | _ | UNDIST. | 6 | CORE | | | 100 | CEED BY | , | | СН | ECKED 8 | Y | | |
| WATER DEPTH (ft) | F1 | RST | 73.5 | COMPL | | 24 HR | rs. 74 | .0 | 1 | H | l. Rey | es | | В | . Jac | 005 | |
| (feet) | · · · · · · · · · · · · · · · · · · · | D | ESCRIPT | TON | | | W ELL LOG | | INFO | TAMPLI TAMPIC Corut Corut | | Drilling Rate (Time) | | RE | MARK | s | |
| SILTY Soft. CLAY 5 | yery SAND very m (CL). ecomes tiff. | (SM) —— noist, s less | with smo | y to bladark yello | ne graine I. ck SILTY owish bro | | \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | | | | 0846 | read | | nd 0' = 4- | | n |
| SAND 20 | Y CLAY | r (SC- to SIL | -CL). | (CL). S | AYEY SAI tiff, mois AY. | | | | | | | 0857 | | odor | | | |
| 30 | Lens | of vol | canic a s | h. | | | | | | | | 091 | | odo | r. | | |
| | 101101 | AS . | IBCB A | ET CON | APANYI | <u>T</u> ′ | 1_K | 1_ | | | <u> </u> | | | | 7.0 | | Fig. |
| Project: | | .A3 / | AIRURAI | - I COK | NE WIN ! | | | L | OG | OF | BOF | RING | W | /CC- | ·3S | | B-16 |
| Project N | No.: | | 87418 | 363D | | | | | | | | | | | E CONSI | | |

| DEPTH (Fect) | DESCRIPTION | METT. | i | Туре | Blow | 0.V.A. (ppm) | Drilling Rate (T.) | REMARKS |
|-----------------|---|-------|-------|------|------------|-----------------|-----------------------|---|
| | (continued) Stiff, moist, olive brown, SILTY CLAY (CL). | | ż | F | 5 0 | DP) | 0921 | |
| 45 | Lens of stiff, moist, alive, SANDY SILT (ML), micaceaus with decomposed piec of roots. | 83 | 1 | X | 25 | 30 | | Earthy odor. |
| 50 | | | | | | | 0937 | |
| 55 | Clay becomes more stiff, interbedded vienses of dense, moist, yellowish brown medium grained SILTY SAND (SM) with shells, partially cemented and crystaliz calcite. | ` | 2 | X | 30 | 570 | 0945 | Moderate chemical odor. |
| 60 | | | | | | | 1005 | |
| 65 | Dense, moist, yellowish brown to olive gray, very fine grained SILTY SAND to SAND (SM-SP), micaceous. | | 3 | X | 46 | 440 | 1015 | Easier drilling. Moderate to strong chemical odor. |
| 70 | Very stiff, very moist, olive brown, SANDY S (ML), micaceous with iron oxide stains. | ALT I | 4 | X | 35 | +100 | 0 1035 | Very easy drilling. Strong chemical odor. |
| 75 | Becomes wet. Very dense, wet, olive brown fine grained S. (SP) to SILTY SAND (SM). | AND | 5 | X | 59 | +100 | 0 104 | Water at 73.5 feet. 7 Strong chemical odor. |
| 80 | Becomes medium grained. | | 6 | X | N.R | +100 | 00 111: | |
| l | ject: DOUGLAS AIRCRAFT COMPANY ject No.: 8741863D | CON | IT. L | 00 | O F | BOF | | WCC-3S Fig. B-17 |

| DEPTH (fect) | DESCRIPTION | WELL. | ó | Type | ≥ ⊆ | 0.V.A. (ppm) | Drilling Rate (T.) | REMARKS |
|-----------------|---|------------------|-----------------|------|------------|-----------------|-----------------------|---|
| 85 | (continued) Very dense, saturated, olive brown, fine to medium grained SAND (SP-SM) with some silt. | | | | | | 1205 | Moderate to strong chemical odor. |
| 90 | • | | | | | | 1545 | |
| 95 | Bottom of Boring at 92.0 feet. | + | | | | | | Note: Used 59 gallons of city water to offset hydrostatic head of flowing sands during well installation. |
| 100 | • | † † † † | | | | | | |
| 105 | · | † † † † | | | | | | |
| 110 | | † † † | | | | | | |
| 115 | | † † † | | | | | | |
| 120- | | † † † | | | | | | |
| 125- | • • • • • • • • • • • • • • • • • • • | + | | | | | | |
| | ject: DOUGLAS AIRCRAFT COMPANY ject No.: 8741863D | CONT | <u> </u> . L | OG | OF | BOF | | WCC-3S Fig. B-18 |

| ORING OCATI WILLIA | G ION NG | | 9. 5 | WCC | | | Figu | ire 2 | | C==:1 | | F1 33 | VATION D DATU | v To 10−2 | | casing @ 49.69 | |
|--------------------------|---------------------|-------------|--------|--------|--------------------|------------------|------|----------|------|-------------|---------------|-------|------------------------|--------------|-------------------------|---|-------------|
| CENC WILL | Υ | A | 6¢ h | | lling, | | | | | . Smit | n_ | CO | TE VRTED VPLETIC | N C | 7-87 91.5 | DATE 10-2 FINISHED 10-2 ROOK DEPTH (ft) | <u>/-6/</u> |
| OUP | EMENT | | - | | | , 10- | | | | <u> </u> | | DE | 21H (R) | | | DEPTH (ft) | |
| VET . | OF Casing | 4 | Sch | . 40 | PVC | SCREEN PERFOR | | | OORE | Slot | | ΒÓ | METER RING (in | <u> </u> | 10 | DIAMETER OF WELL (in.) CHECKED BY | 4 |
| AMPL VATER VEPTH | (ft) | | DIST. | | - 75 | COMPL | 8 | <u> </u> | 24 H | | .6 | | | l. Rey | es | B. Jaco | bs |
| DEPTH (feet) | | , = | | DES | SCRIPT | ION | | | | WELL LOG | | INF | AMPL Cornt Cornt | | Orilling Rate (Time) | REMARKS | ; |
| 10 15 20 35 | SAND —— Moist | . groot (CL |). | lowish | brown | CLAY | CLAY | (GL). | | | | | | | 1230 | Background O\reading = 4-6 No odor. | |
| | | | GLA: | S Alf | RCRAF | T CO | MPAN | NY | | r 1 - K | <u>1</u> L | 00 | OF | BOF | RING | WCC-4S | Fig. B-1 |
| Pro | oject | NO.: | | | 87418 | 163D | | | | | | | | | | OODWARD-CLYDE CONSU | |

| (FP H | DESCRIPTION | WELL | No. | Type | Blow Count | 0.V.A. (ppm) | Drilling Rate (T.) | REMARKS |
|-------|---|------|------|------|---------------|-----------------|-----------------------|---------------------|
| 40 | - | | | | | | | |
| 45 | Very stiff, organic roots and plant detritus with orangish iron oxide staining. | | 1 | X | 18 | 8 | 1345 | No odor. |
| 50 | - | | | | | | | |
| 55 | | | 2 | X | 23 | 8 | 1350 | No odor. |
| 60 | Occasional fossiliferous gravel. | | | | | | | - |
| 65 | Hard, light alive brown, fine SANDY SILT to SILTY fine SAND (SM). | | 3 | X | .43 | 5 | 1425 | 5 No odor. |
| 70- | | | | | | | | |
| 75- | Becomes wet. Hard, damp, light olive brown, SILTY CLAY (CL) with iron oxide staining. | | 4 | X | 42 | 7 | | ∑ Water at 75 feet. |
| | Very dense, light olive brown, fine grained SAND (SP) with little silt. 2 inch layer of CLAY (CL). | | 5 | | 45 | 8 | 153 | No odor. |
| | pject: DOUGLAS AIRCRAFT COMPANY pject No.: 8741863D | CON | Γ. L | 00 | 0 | F BOI | RING | WCC-4S Fig |

| (heet) | DESCRIPTION | roc ÆTT | N O | Type | Blow | O.V.A. (ppm) | Drilling Rate (T.) | REMARKS |
|--------|--|---|--------|------|------|-----------------|-----------------------|--|
| 85 | (continued) Very dense, wet, light olive brown, fine grained SAND (SP) with little silt. | | | | | | | |
| 90 | Moist, light olive brown, SILTY CLAY (ML-CL). | | 6 | X | N.R. | 8 | 1700 | No ador. |
| 95 | Bottom of Boring at 91.5 feet. | | | | | | | Note: 45 gallons of city water used to offset hyd static head of flowing sands during well installation. |
| 00 | | +++++++++++++++++++++++++++++++++++++++ | | | | | | <u> </u> |
| 05 | | + + + + + + + + + + + + + + + + + + + | | | | | | |
| 10 | | +++++++++++++++++++++++++++++++++++++++ | | | | | | |
| 15 | · | + | | | | | | |
| 20 | | + | | | | | | |
| 25 | | + | | | | | | |
| | ject: DOUGLAS AIRCRAFT COMPANY ject No.: 8741863D | CON | Γ. L | .00 | G 01 | F BOF | | WCC-4S Fi |

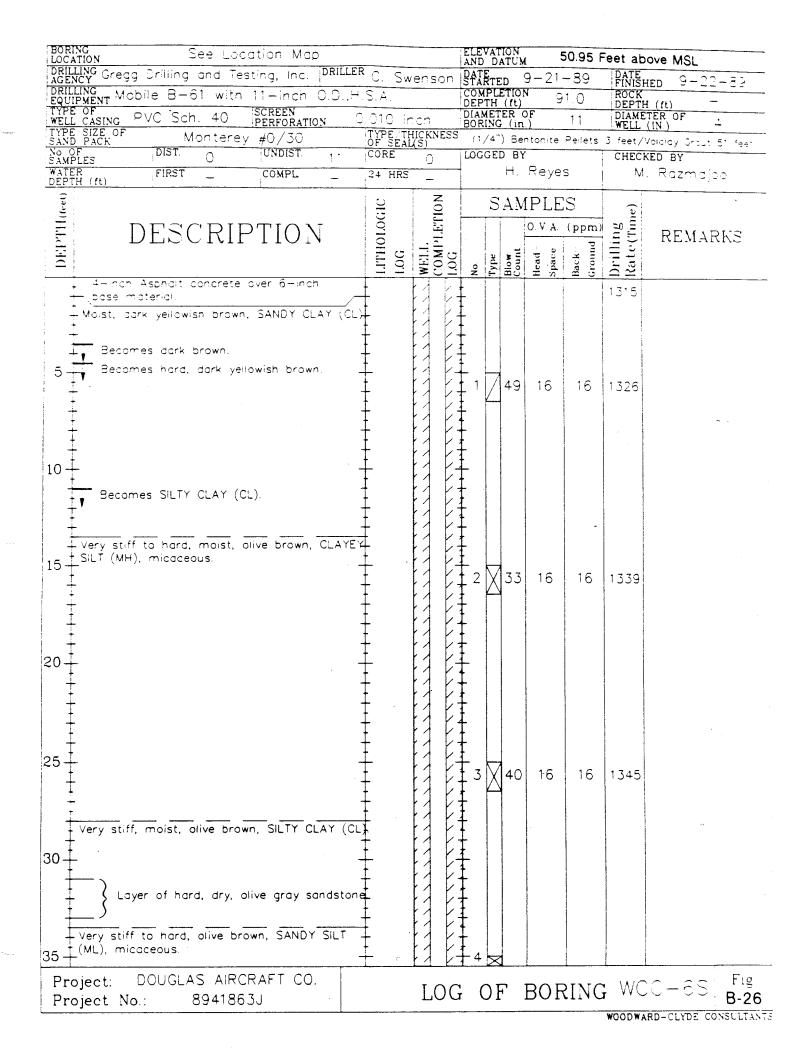
| CATI | G 10N | | | WC | C-5 | | | | | | | | EL | EVATION D DATE | | 48.2 | 2 Feet above MSL |
|---|--------------|-------|--------|----------|--------------|-------|-------------------|-----|-------|------|--|-----|----------|-------------------|---------|------------------------|----------------------------------|
| RELLIA | NG SY | | & & F | R D | rilling | j, In | c. | ORI | TER | - | TEXT | | | ARTED | | 4-87 | DATE 11-24-87 |
| | IG MENT | | | | | | 0 – i | nch | H.S. | | | | ICO | MPLETIC | N N | 91 | ROOK — DOPTH (ft) — |
| PE (| OF CASING | 4" | | ; S(| CH. 4 | | CREEN ERFORATI | | one S | Sta | r #0 | 130 | | WETER | of ည | 10 | DIAMETER OF 4 |
| OF NMPL | E5 | | DIST. | | _ | u | NDIST. | 4 | 1 | ORE | | - | Δ | CCED 8 | Y | 1 | CHECKED BY |
| PIH | (ft) | | FIRST | | 73 | c | OMPL | 70 | 2 | 4 HR | S.70.3 | 1/2 | a | 6 | l. Jaco | DS | H. Reyes |
| | | | | | | | | | | | | | | SAMPL | | | |
| 1 | | | | DE | SCRIE | РПО | N | | | ١ ١ | WELL | | NI | ORMA | IION | e E | REMARKS |
| (ce) | | | | | | | | | | | LOG | | | <u>ء</u> ۔ | 0.V.A. | e E | . Can a co |
|] | | | | | | _ | | | | | | ý | Type | Blow | (ppm) | Drilling Rate (Tme) | |
| 5 | Mois with | t. mo | e sand | te brid. | own, { | SILTY | CLAY | | | | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | | | | 1400 | Background OVA reading = 3-4 ppm |
| - | ect: C | | GLAS | | RCRA 8741 | | СОМР | ANY | | 1 | | LO | G | OF | BOR | ING | WCC-5S Fig |

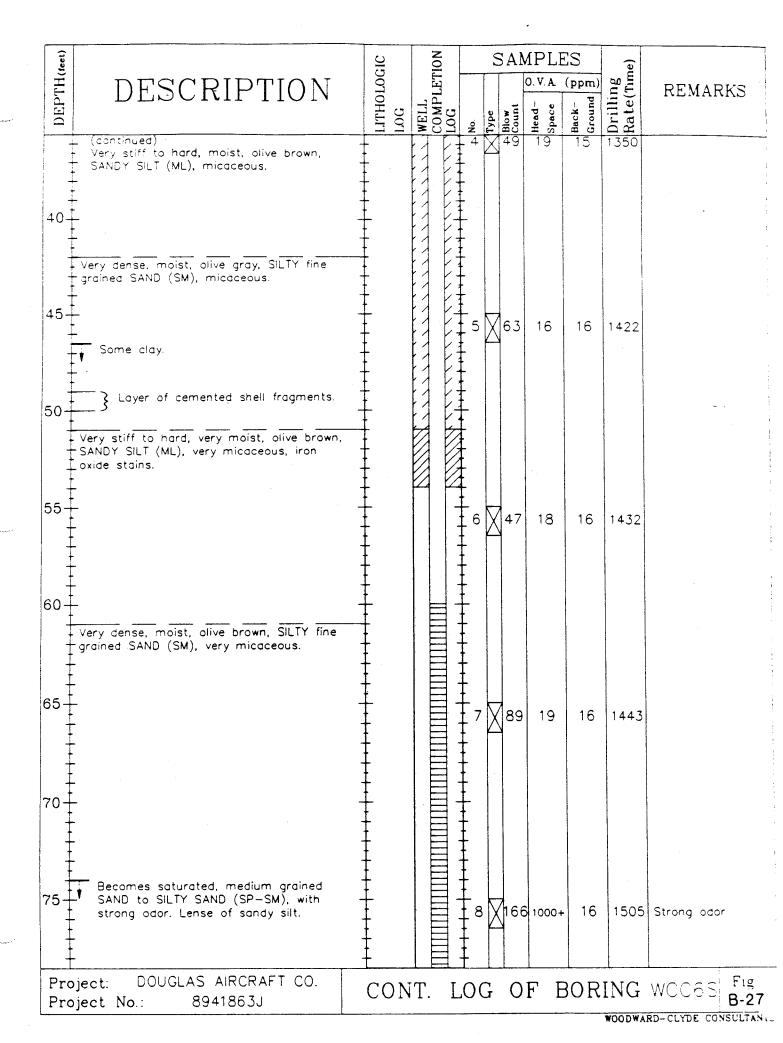
WOODWARD-CLYDE CONSULTANTS

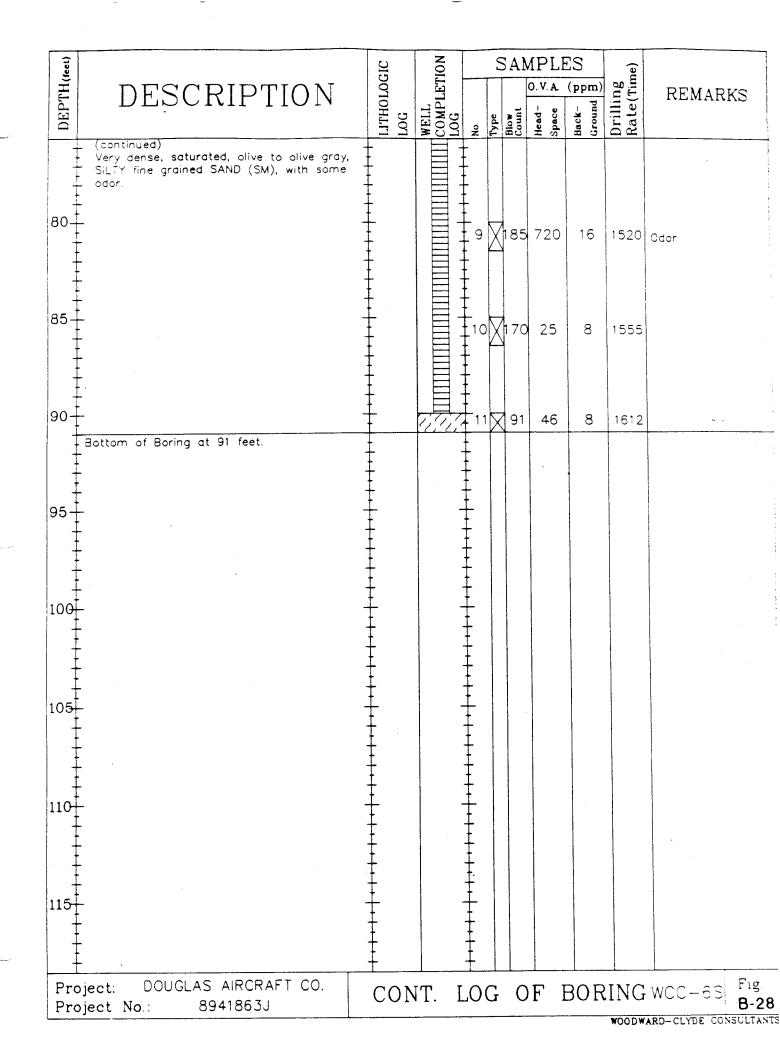
| E | | | | | | T . | · | |
|----------------|--|-------|------|----------|------|-----------------|-----------------------|------------------------------------|
| DEPTH (Fec) | DESCRIPTION | LOG | Š. | Type | Blow | 0.V.A. (ppm) | Drilling Rate (T.) | REMARKS |
| 40- | Moist, dark yellowish brown, SILTY CLAY (CL). (continued) with some organic roots and iron oxide staining. | | | | | | 1445 | · |
| 45 | Dense, moist, dusky yellow to light olive brown, fine grained, SAND (SP) with little silt. | | 1 | X | 34 | 3 | | No odor. |
| 501 | Interbeds of Silty Sands and Clay. | | 2 | X | 37 | 5 | 1515 | No odor. |
| 60 | | | | | | | | |
| 65 | Becomes very dense. | | 3 | X | 70 | 4 | 1550 | No odor. |
| 75 5 | Becomes wet. Dense, wet, moderate olive brown, fine grain SILTY SAND (SM-ML). | ned | 4. 2 | X | 35 | 3 | | ☑ Water at 73 feet. No odor. |
| Proje | ct: DOUGLAS AIRCRAFT COMPANY | | | | | D00:: | | WCC_59 Fig. |
| Projec | ct No.: 8741863D | CONT. | LUC | <i>.</i> | UF | ROKI | NG | WCC-5S B-23/24 |

| 世(文) DESCRIPTION | WELL | ó | Type Blow Count | O.V.A. (ppm) | Drilling Rate (T.) | REMARKS |
|---|------------------|-----|-----------------------|-----------------|-----------------------|--|
| 85 Dense, wet, moderate olive brown, fine SILTY SAND (SM-ML). | grolned | | | | | |
| 90 | | | | | | No sample collected Augers sanding—in. |
| Bottom of Boring at 91 feet. | † † | | | | | Note: 55 gallons of city water was used to aid well install—ation. |
| | ‡ ‡ ‡ | | | | | |
| 100 | ‡ ‡ | | | | | |
| 105 | † † † † | | | | | |
| 110 | + | | | | | |
| 115 | | | | | | |
| 120 | | | | | | |
| 125 | | | | | | |
| Project: DOUGLAS AIRCRAFT COMPAN' Project No.: 8741863D | CONT. | LOC | G OF | BORII | ٧Ġ | WCC-5S Fig. B-25 |

WOODWARD-CLYDE CONSULTANTS

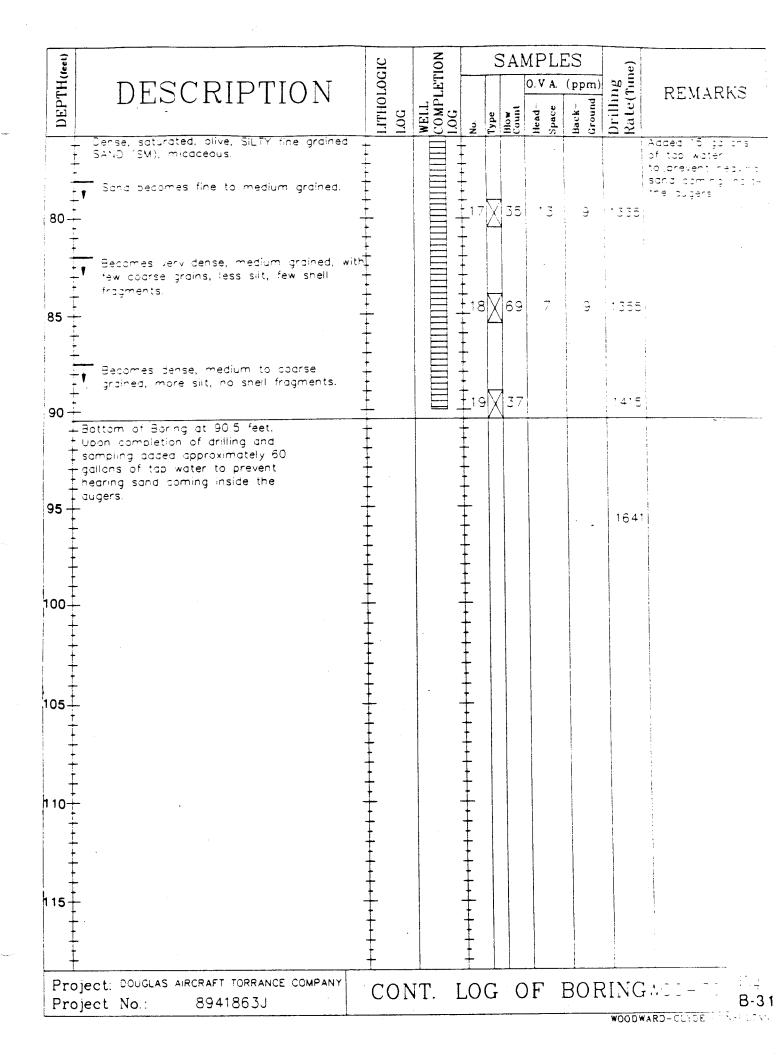






| BORI | NG ATION | | See l | Location Map | | | | | | VATI DA | ION TUM | | 48 | | eet MSL | | |
|--------------|-------------------|--------|-------------|------------------|---|------------|--------------|-----------------|----------------|------------------|--------------|----------------|-----------------|------------------------|--|----------|-------|
| DRILL | LING A | | Priling, | 111C. | DRILLER | IVI . | . Rc | mero | DAT | E RTE | D (| 6-8- | -89 | DATE FINISH | IED 6-8 | 3-89 | |
| DRILI | LING IPMENT | СМЕ | 75 with | 10-inch 0.0 | <u>5.,н.s.</u> | Ā. | | | DEP | TH | | J(| 0.5 | ROCK DEPTH | | | |
| TYPE | OF CASING | | Sch. 40 | TI GITT GITTING | אכ (| | 1 – in (| | DIAL | METI SING | ER O (in. |) | 10 | WELL | | 4 | |
| TYPE SAND | E/SIZE OF PACK | F | | ar No. $0/30$ | | TYP OF | E/TH SEAL | IICKNES: (S) | \$ E | | | | ets 5 f | | ay grout 4 | 19 0 ft. | |
| No O SAMP |)F PLES | D | DIST. 1 | UNDIST | Ó | COR | RE | 0 | LOG | | В В У | aesm | an | | (ED BY . Razma | | |
| | ER TH (ft) | F | TIRST _ | COMPL | | 24 | HRS. | | | | | Reyes | | IVI. | . Ruzing | <u> </u> | |
| leet) | 1 | | | | | 2: | ا ر | NOI | | S | AM | PLE | S | (e) | | | |
| H. | Í | ŊĦ | rac B | IPTION | .Т | 1.00 | } | LETION | | Π | ľ | 0. V. A. | (ppm) | Jg | REMA | ロにつ | |
| DEPTH (teet) | 1 | νĽ | 10 C I V | IF HOL | ١ | LITHOLOGIC | | WELL COMPL | _ | 9 | ıt. | q- | Back- Ground | Drilling Rate(Time) | 100,000 | 717 | |
| Id | | | | | | | 507 | S € | 3 8 | Туре | Blow | Head- Space | Back- Groun | Dri | 1 | | |
| | 6-inc | | halt concre | ete, over 8-incl | h base | Ī | | 图片 | 7 | | | | | | | | |
| | | | black, SAN | NDY CLAY (CL). | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | ‡ | 1 | 图片 | 注1 | \mathbb{X} | 31 | 1 | 10 | 0913 | | | |
| | Bec | omes o | ďářk yellow | īšh brown. | | + | į | 131 | 4 | H | | | | | | | |
| | - | | | | | + | ! | 131 | 4 | H | | _ | | | | | |
| 5 – | ÷. | r | | | - | ŧ | , | 131 | 年 2 | \boxtimes | 45 | 1 | 10 | 0940 | | | |
| | ÷ | | | | | Ŧ | , | 137 1 | 汗 | | . [| | | | | | i |
| + | r C | | | | | + | į | 131 F | 注 | | . | | | | | | : |
| + | ŗ. | | | | • | + | 1 | 127 [| # | | | | | | | | : |
| | Ī. | | | | • | + | I | [2] [| 往3 | M | 36 | 1 1 | 10 | 0951 | | | į |
| 10 - | - | | | | - | + | | 127 | 往。 | | | | - | | | | : |
| | · _ | | | | | ŧ | | 121 [| 往 | | | | . | | | | |
| J | | | | ive brown, SILT | Y fine | Ī | | 123 1 | | | | | | | | | |
| } | - graineu [| d SAND |) (SM). | | |] | | 1/1 [| 4 | Ц | | | | | | | |
| 15 | <u>.</u> | | | | | 1 | | 121 | 往4 | $ \chi $ | 14 | 3 | 10 | 1002 | | | |
| | Ĺ | | | | | ‡ | | 1/1 1 | 4 | H | | | | | | | |
| † | Ļ | | | | | ‡ | | 121 | 4 | | | | | | ı | | : |
| ‡ | — Rec | | dark vellov | wish brown, with | n trace | ‡ | | 137 | 往 | | | | | | ı | | |
| 1 | | | | mposed roots. | | + | | 14 | 4. | \mathcal{H} | اردا | | 10 | | | | |
| 20- | – | | | | ٠. | + | | 131 | 注 5 | , <u>X</u> | 25 | 2 | 10 | 1009 | | | |
| | r | | | | | Ŧ | | 13 | 汗 | | 1 | | | | | | |
| } | Ī | | | | | Ŧ | | 13 | 1 | | | | | | | | |
| + | Hard, | moist, | dark olive | brown, fine gro | ained | + | | 13 | # | | | | | | | | |
| | SANDY | CLAY | (CL), with | root holes. | | † | | 121 | 往 6 | $\langle \nabla$ | 31 | 2 | 10 | 1017 | a de la companya de l | | |
| 25 | - | | | | - | + | | 131 | 往 | ′ <u>Γ</u> Δ | 1 | _ | | - | | | : |
| † | - - | _ | | | | ŧ | | 1/1 | 往 | | | | | | | | |
|] | | | , olive bro | wn, SILTY fine | grained | Ī | | 131 | Œ | | | | | | | | |
| | SAND (| (SM). | | | | Ī | | 131 | 狂 | | | | | | | | |
| 30 | - Ĺ_ | | | | | 1 | | 121 | 47 | 7 🛚 | 41 | 2 | 10 | 1058 | | | |
| | Ĺ | | | | | ‡ | | 131 | 4 | - | 4 | | | | | | |
| | į. | | | | | ‡ | | 121 | 4 | | | | | | | | |
| | <u>;</u> | | | | | ‡ | | 131 | 注 | | | | | | | | |
| | | - root | tales and | small nodules | a f | ‡ | | 137 | 注, | L | 1 | | | 1 | | | |
| 35 – | | | | (HCL Reaction). | | ± | | [2] | 主 | $3 \times $ | 32 | 2 | 10 | 1105 | | | |
| Pr | oiect: | DOUGLA | S AIRCRAFT | COMPANY TORRA | ANCE | | | T () | ~ | <u>ー</u> | | יים ו | | ¬ \\/(| `^ _ 7< | Fı | g |
| L | oject | | | 1863J | | | | LΟ | Ġ_ | () I | ۲ | RO I | ノロン | | DC - 75 | | 29 |
| | | | | **** | , | | | | | | | | • | WOODW | ARD-CLYDE | CONSULT | CANTS |

| feet) | | 310 | | NOI | | S | SAN | IPL | ES | ne) | | |
|---|---|---|--|---------------|---|------|---------------|----------------|-----------------|-----------------------|----------------|-----------|
| Ĭ,Ĭ, | DESCRIPTION | 070 | | LET | | | | O. V. A. | (ppm) | ing (Tim | REMARKS | |
| DEPTH(feet) | DECOMIT 1101 | LITHOLOGIC | WELL | COMPLETION | No. | Type | Blow Count | Head- Space | Back- Ground | Drilling Rate(Time | | |
| + | Dense, moist, olive brown, SiLTY fine grained SAND (SM), with root holes and CaCo, nodules | | 7777 | 7 6 7 7 7 | | | | | | | | |
| 0 | Medium dense, moist, dark brown to olive brown, medium grained SAND (SP). | - | 7777777 | ~~~~~ | 9 | X | 25 | 3 | 10 | 1112 | | |
| +++++++ | Dense, moist, olive brown, fine grained SAND to SILTY SAND (SP-SM). | + + + + | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | † † † 10 | | 44 | 2 | 12 | 1123 | | |
| 5++++++++++++++++++++++++++++++++++++++ | Zone of hard, damp, light brown, calcareous | - | 1111111 | X X X X X X X | +10 | | ++ | 2 | 12. | 1123 | | |
| 0 + | - material (sand and shell fragments) | + | | | 11 | X | 19 | 3 | 10 | 1134 | ~ . | |
| 5 | Dense, moist, olive, SILTY fine grained SAND (SM). Hard, moist, olive, SANDY CLAY (CL), with some iron oxide staining. | + | | | 12 | 2 🔀 | 35 | 2 | 10 | 1148 | | |
| 0+ | Dense, moist, olive brown, SILTY fine grained SAND to SAND (SM-SP). Dense, moist, olive gray, fine grained SAND | † † † † | | | † † † † † | 3 2 | 38 | 1 | 10 | 1201 | | |
| 5- | -(SP). | +++++++++++++++++++++++++++++++++++++++ | | | + | 4 | 43 | 3 1 | 10 | 1214 | | |
| 0 | -Dense, very moist, olive, SILTY fine grained SAND (SM), micaceous. | † † † † † † | | | + + + + 1 | 5 | 44 | 3 | 10 | 1228 | | |
| 5- | Becomes saturated. | T + + + + + + + + + + + + + + + + + + + | | | 1 + + + + + + + + + + + + + + + + + + + | 6 | 44 | 1 9 | 10 | 1300 | | |
| | Dject: DOUGLAS AIRCRAFT COMPANY TORRANCE | ‡ COI | I | <u>目</u> | ‡ LO | G | |)F | L BOR | LING | VV (. \ /) (| ıg }-: |



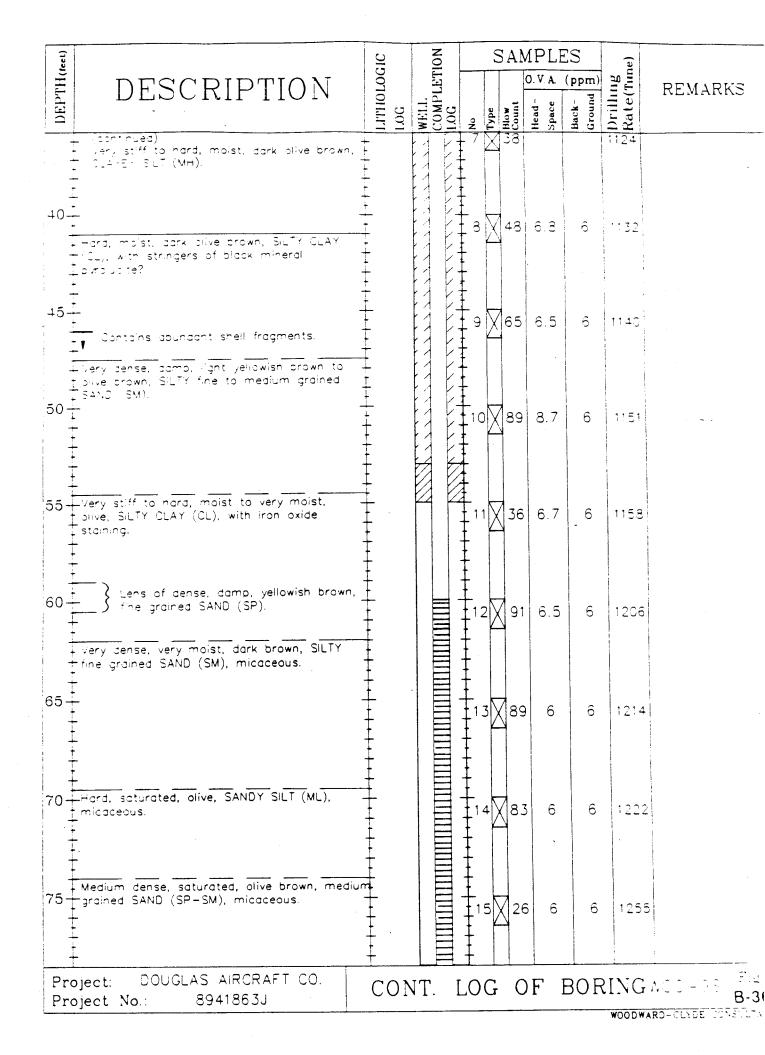
| BORI | | | | | T | ELEV | /ATI | ON | | 50 |) 56 f | eet MSL | |
|--------------|---|------------|----------|---------------|-----|------------|-------------|--------------|----------------|-----------------|-----------------------|---|----------|
| DRILL | ING A & R Driling Inc DRILLER | 1.1 | | mer | | | | TUM | -12- | | DATE | | 90 |
| DRILL | ING CME 75 with 8 and 10-inch O.D., | | | 11101 | | COM | PLE | TION | | D.O | ROCK | · _ · _ · _ · _ · _ · _ · _ · _ · _ · _ | 23 |
| EQUI | | | | | | DEP' | | (ft) ER O | | | DEPTH | TED OF | |
| WELL | CASING SCH. 40 PVC PERFORATION S |). 01 - | | | | BOR | ING | (in. |) | 10 | WELL | (IN.) 4 | |
| | TINDIOT | | | ICKNE S) | | | | | e Pelle | ts 5 f | | lay grout 49.5 | , ft. i |
| No O SAMP | LES U | COR | | 0 | | | | BY Gl | aesm | an I | | <mark>кер ву</mark> . Razmajoo | 1 |
| WATE | R FIRST _ COMPL _ | 24 1 | HRS. | | | | | | Reyes | | 101 | . NG2111G j00 | |
| et) | | 2 | İ | NO | İ | | S | ΑM | PLE | s l | (e) | | |
| 1 (16 | PECCHIPMION | 50 | | LETION | · | | П | | O. V. A. | (ppm) | g | | |
|) <u> </u> | DESCRIPTION | OF | | - FI | | | | ŀ | | | lin 🖺 | REMARK | 73 |
| DEPTH(feet) | | LITHOLOGIC | LOG | WELL COMPI | 2 | ď | Туре | Blow | Head- Space | Back- Ground | Drilling Rate(Time | | |
| | | - | <u> </u> | <u>≯</u> 0 | | Š | E | ಹರ | Η Ω | <u> </u> | í í | | |
| | 8-nch Asphalt concrete. Base material, medium dense, moist, yellowish | ‡ | | 41 | 1/ | - - | H | | | | 0750 | | |
| | brown, CLAYEY SAND (SC), decomposed | ‡ | | 31 | | _ 1 | XI | 12 | 0 | 11 | 0800 | | |
| 1 | · \qranite. | ‡ | | 31 | | - - | П | | | | | | |
| | Stiff, very moist, very dark gray, SANDY | ‡ | | | 1/ | - | | | | | | | |
| 5 | Hard, moist, dark yellowish brown, SANDY | <u> </u> | | 21 | 12 | _2 | X | 55 | 13 | 11 | 0810 | | 1 |
| | CLAY to CLAYEY fine grained SAND (CL- 7 SC). | <u> </u> | | 11 | 1 | _ | H | | | | | | |
| 1 | - 33//. | <u> </u> | | 21 | | | | | | | | ٠., | |
| 1 | | Ţ | | 31 | | | | | | | | | |
| 1 7 | Hard, moist, olive brown, SILTY CLAY (CL). | Ĺ | | 3 | 1 | Ŀ | Ц | | | | | | |
| 1, 7 | _ | <u> </u> | | | 12 | _ 3 | M | 82 | 30 | 11 | 0819 | | |
| 10 | • | Ł | | 11 | 12 | Ł | H | | | | | | 1 |
| | <u> </u> | Ŧ | | 11 | 1 | | | | | | | | |
| | Medium dense, moist, olive brown, SILTY fine | Ŧ | | [2] | | | | | | | | | : |
| 1 1 | grained SAND (SM). | ‡ | | 21 | 1 | | | | | | | | |
| 1 | - | ‡ | | [3] | 1 | 4 | \bigvee | 20 | 41 | 11 | 0823 | | |
| 15 | ~ · | + | | [2] | 17 | ' | | 20 | ' ' | | 10020 | | |
| 1 | | ‡ | | 11 | 1 | <u> </u> | | | | | | | • |
| | · Very stiff to hard, moist, olive brown, SILTY | + | | 1/4 | 15 | † | | | | | | | |
| | CLAY (CL), with CaCo, veinlets. | t | | 121 | 15 | t | | | | | | | |
| | · - | + | | 121 | | t - | k7 | | 4.0 | 1. | 0070 | | |
| 20 | · _ | + | | 21 | [2 | F5 | IX | 26 | 46 | 11 | 0830 |) | |
| ‡ | _ | ‡ | | 131 | | + | | | | | | | |
| 1 | - | ‡ | | [3] | | ‡ | | | | | | | |
| 1 | - | ‡ | | | 1/ | ‡ | | | | | | | |
| | | ‡ | | 121 | 12 | ‡ | | | | | | | |
| 25 | Dense, moist, olive, SILTY fine grained | 1 | | 1/1 | 1/2 | 1_6 | X | 33 | 24 | 11 | 0839 |) | |
| 257 | SAND (SM-ML), with some iron oxide staining | ı | | 121 | 1 | Ţ | | 1 | | | | | |
| 7 | and hairlike root holes. | + | | 121 | [/ | ł | | | | | | | |
| | - CANDY CLAY | Ŧ | | 121 | | Ŧ | | l | | | | | |
| | -Hard, moist, dark olive brown, SANDY CLAY (CL), with caliche veinlets. | Ŧ | | [3] | 13 | Ŧ | | | | | | | |
| | · | Ţ | | 131 | 1 | 7 | | 32 | 21 | 11 | 0846 | 5 | |
| 30 - | <u>-</u> • | + | | | 17 | † ′ | \triangle | لا | | | | | |
| | | ‡ | | 131 | 1/ | ‡ | | | | | | | |
| - | Dense, moist, olive brown, fine grained SAND | † | | 111 | 1 | † | | | | | | | |
| | to SILTY SAND (SP-SM). | + | | 121 | 1 | † | | | | | | | |
| - | _ | + | | 131 | | † | 3 🛚 | 31 | 43 | 10 | 085 | 5 | |
| 35 - | Becomes more silty, grades to (SM) | _ | | [2] | | ±° | , <u>N</u> | ادلا | 1 43 | 10 | 003 | | |
| Pr | oject: DOUGLAS AIRCRAFT COMPANY TORRANCE | | | - | | _ | _ | _ | D 4 1 | | ~ \A// | | Fig |
| | oject No.: 8941863J | | | L(|)(| j | U. | r' | RO1 | KIN | G 771 | CC-8S | B-32 |
| | -3 | | | | | | | | | | WOODY | WARD-CLYDE CO | NSULTANT |
| | | | | | | | | | | | | | |

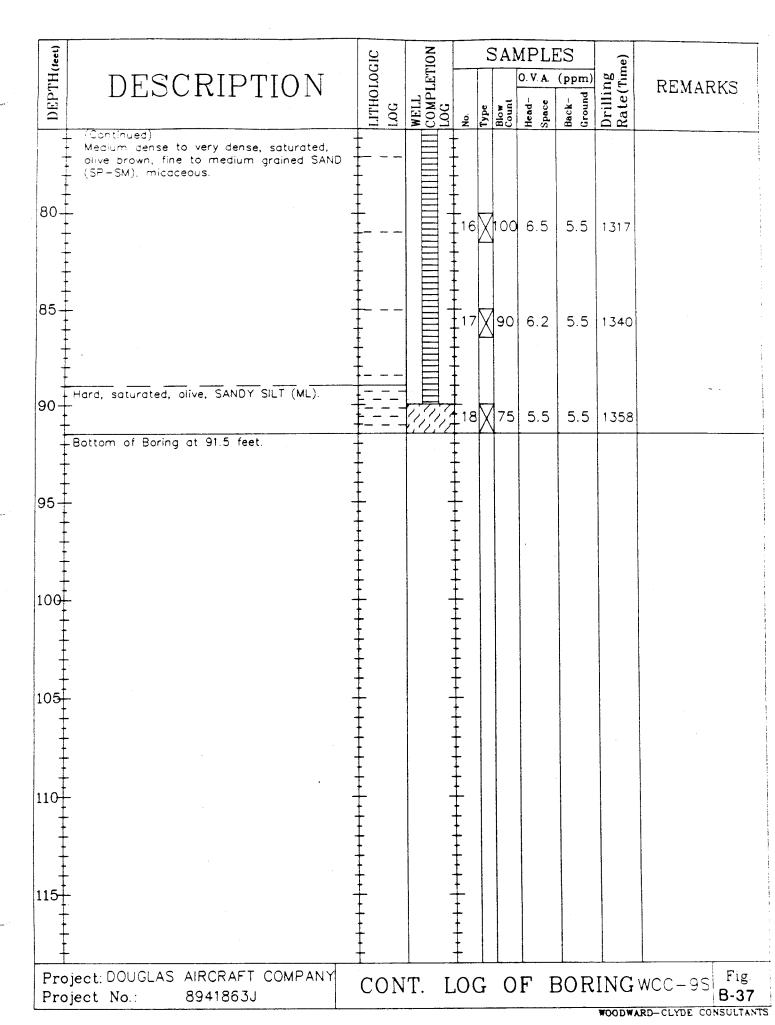
| (feet) | | 310 | | NOI | | 2 | SAN | 1 PLE | ES | ne) | |
|-------------|--|-------------------|------|------------|---------------------|---------------|---------|---------------------|-----------------|----------------|-------------------------|
| DEPTH(feet) | DESCRIPTION | 070 | | LET | | | | O. V. A. | (ppm) | ng (Tim | REMARKS |
| DEP | DECCIVIT 1101, | LITHOLOGIC LOG | WELL | COMPLETION | No. | Type | Blow | MPLE Space Space | Back- Ground | Drilli Rate | |
| | Dense, moist, olive brown, SILTY fine grained SAND (SM). | | 11 | | <u> </u> | | | | | | |
| - | | - - - | | 1 | - | | | | | | |
| 0 | | _ | | | <u>‡</u> 9 | X | 24 | 43 | 11 | 0904 | |
| - | Stiff to very stiff, moist, olive brown, SANDY | | | | ‡ | | 1 | | | | |
| | Dense, moist, olive brown, SILTY fine grained -SAND (SM), with abundant calcareous nodules | | 111 | | Ī | | | | | | |
| 5- | | - | | 1 | 10 | X | 31 | 46 | 10 | 0917 | |
| 1 | Hard, moist, olive, SILTY CLAY (CL), with iron- oxide staining and calcareous nodules. | | 1777 | | ‡ | | | | | | |
| + | Medium dense, moist to very moist, olive | | 1111 | | Ŧ | | | | | | |
| 0 | gray and yellowish brown, mottled, CLAYEY = grained SAND (SC). | _ | | | ± 11 | X | 13 | 48 | 10 | 0925 | ~ . |
| <u> </u> | | | | | 4 | | | | | | |
| + | Dense, moist, olive brown, SILTY fine grained - SAND (SM), with abundant shell fragments which are cemented together forming coquina | | | | # | | | - | | | |
| 5 | | | 1 | | 1 112 | $\frac{1}{2}$ | 43 | 72 | 10 | 0938 | |
| 37 | - - - | | | | ‡ | | 1 | | | | |
| + | - - - | _ | | | ‡ | | | | | | |
| , | - | <u> </u> | | | ‡ 13 | 3 X | 26 | 70 | 10 | 0950 | |
| 0+ | (ML), micaceous, with iron oxide staining. | | | | + | | Ä | | | | |
| - | - Very dense, moist, light olive brown, SILTY | + | | | ‡ | | | | | | |
| _ | fine grained SAND (SM), micaceous. | | | | ‡ ₁₄ | 4 | 83 | 100 | 10 | 1003 | |
| 5+ | - - - | - | | | + | 1 | | | | | |
| + | | | | | Ī | | | | | | |
| 1 | - - | + | | 目 | ‡,, | 5 🕽 | 771 | 100 | 10 | 1015 | |
| 0 - | Becomes very moist to saturated. | + | | 目 | 十 ^{' `} | 1/ | ا ' إلا | | | 1013 | |
| + | - - | ‡ | | 目 | ‡ | | | | | | |
| + | - - - | Ŧ | | 目 | ‡ | <u>_</u> | 1-7- | 100 | 1.0 | | |
| 5 | Hard, saturated, olive, SANDY SILT (ML), | - | | | Ŧ' | 6 } | (38 | 100 | 10 | 1028 | Becomes wet at 75 feet. |
| 1 | micaceous. | ‡ | | | ‡ | | | | | | |
| | oject: Douglas aircraft company torrance | <u> </u> | | 且 | <u> </u> | | | <u> </u> | | | voc ac Fig. |
| | oject No.: 8941863J | CON | IT | .] | | G | 0 | FE | 30 R | ING | WCC-8S B-3 |

| (eet) | |)!!C | NO | | S | AN | 1PLI | ES | (e) | |
|-------------|---|--|----------------|-----------------|------------------------|---------|----------|--------|-----------|---------------------------------|
| <u> </u> | DESCRIPTION | 507 | LETI | | | | O. V. A. | (ppm) | ng Tim | REMARKS |
| DEPTH(feet) | DECOMI HOIV | n dense, saturated, light gray, SILTY medium grained SAND (SM-SP). | Head- Space | Back- Ground | Drilling Rate(Time) | NEWMINE | | | | |
| + | Hard, saturated, olive, SANDY SILT (ML), | | | ‡ | | | | | | |
| + | | | | ‡ | | | | | | |
| + | Medium dense, saturated, light gray, SILTY | | | <u> </u> | | 21 | 32 | 10 | 1042 | |
| + | fine to medium grained SAND (ŠM—SP). | - | | + | | | | | | Unable to colle |
| + | · · · · · · · · · · · · · · · · · · · | + | | ‡ | | | | | | sample due to existance of S |
| ++ | · - | - | | - 18 | X | NR | NR | - 10 | 1102 | feet of heavingsand inside to |
| ++ | - | <u> </u> | | Ī | | | | | | auger. Added |
| Ŧ | - | | | + | | | | | | gal. of water prevent heaving |
| + | | - | | + | | | | | | sand coming into augers. |
| + | · | <u> </u> | | ‡ | | | | | | |
| + | 8—inch outside diameter and | | | Ŧ | | | | | | |
| Ŧ | completion of sampling, boring was enlarged with 10—inch outside | + | | + | | | | | | |
| # | diameter and well was installed. — 2. Added 40 gallons of water prior to | <u> </u> | - | Ŧ | | | | | | |
| ‡ | installation of well casing. | ‡ | | ‡ | | | | | | |
| + | , - | ‡ | | Ŧ | | | | | | |
| 7 | - | + | | + | | | | | | |
| Ŧ | | | | Ŧ | | | | | | |
| + | • | Ī | | Ī | | | | | | |
| Į. | | <u> </u> | | Ŧ | | | | | | |
| \pm | | <u> </u> | | <u> </u> | | | | | | |
| Ŧ | | ‡ | | ‡ | | | | | | |
| + | | ‡ | | ‡ | | | | , | | |
| + | | ‡ | | ‡ | | | | | | |
| + | | ‡ | | ‡ | | | | | | |
| + | | ‡ | | ‡ | | | | | | |
| 5 + | · | + | | + | | | | | | |
| + | | <u> </u> | | <u> </u> | | | | | | |
| ro | ject: DOUGLAS AIRCRAFT COMPANY TORRANCE | CON | T | IO | <u>ֈ</u> | _ | r r | \Box | INC | WCC-85 Fig |
| | ject No.: 8941863J | CON | 1. | LU | J | U | г Г | JUK | DVII | B- |

WOODWARD-CLYDE CONSULTANTS

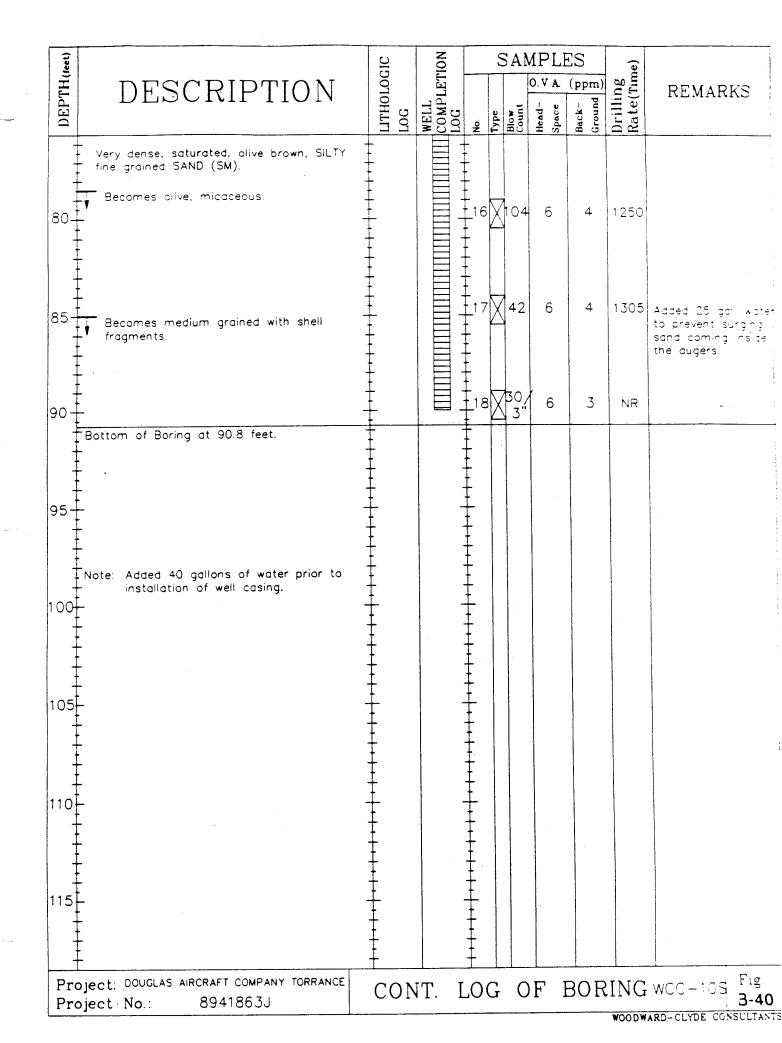
| DRING See Location Map | | | ELEV | | | | 17.01 F | Feet ab | ove MSL |
|--|---------------------------|---------------|----------------|--|-------------|----------------|-----------------|------------------------|---|
| RILLING Greag Drilling and Testing, Inc. DRIL | LER C. Swens | on: | DATE | | | -20- | | DATE | |
| RILLING QUIPMENT Mobile 8-61 with 11-inch, O.D | ,H.S. 4. | | COM DEP | PLE' | TION | 9 | 1 5 | ROCK DEPTH | |
| PE OF DVC Sch. 40 SCREEN PERFORATION | 0.010 inch | | DIAM | METE | R O | | 11 | | TER OF . |
| PE SIZE OF Monterey #0/30 | TYPE THICKN OF SEAL(S) | VESS | <u></u> | | | | e Pelle | | (IN) Voiciay Grout 51.51 |
| OF DIST UNDIST. +3 | CORE | - | LOG | GED | BY | | i | CHECK | CED BY |
| TER FIRST _ COMPL _ | 24 HRS | | | | | Reyes | | M. | . Razmájos ——————— |
| DESCRIPTION | CIC | ETION | | S | | PLE | | ne) | |
| DESCRIPTION | 0.10 | Ę | | | 1 | .A V.C | (ppm) | ing (Tu | REMARKS |
| | LITHOLOGIC LOG WELL | COMP1 1.0G | No. | Type | Blow | Head- Space | Back- Ground | Drilling Rate(Tune | |
| 4- non Asphait concrete over 6- non | - 7 | | Z | - (| ഇ <u>റ്</u> | H S | <u> </u> | <u>-2 ≃ ;</u> 1036¦ | |
| pase material. Very stiff to hard, moist, dark yellowish br | rown 2 | 1/2 | | | | | i i | | |
| \pm SILTY CLAY (CL), with fine grained sand, | 1 13 | | - | | | | : | 1 | |
| i micaceous. H | + [:] | | ‡ ! | | | | | 1 | |
| , † | ÷ [3] | 5 | <u>†</u> , | \forall | . = | (| 6 | - 0 4 7 | |
| + · + | Ŧ [3] | <u> </u> | ļ ' | Д. | 45 | 6 | 6 | 1043 | |
| + | † 2 | 2 | ‡ | and the same of th | | | | | · . |
| ± + | Ī [:] | | ŧ | | | | | | |
| <u> </u> | I (1) | 1/ | Ī | | | | | İ | |
| + | 1 [3] | 13 | 2 | X | 31 | - | 6 | 1051 | |
| 1 | 1 | 12 | ‡ | H | | | | | |
| Stiff, moist, dark yellowish brown, CLAYEY | - [:] | | ‡ | | | | | | |
| + Stiff, moist, dark yellowish brown, CLATET + SILT (MH), micaceous. | ÷ [2] | 1 | Ŧ | | | | | | · |
| + | + 13 | 1 | I - 3 | M | 15 | 7 | 6 | 1058 | |
| ‡ | + 13 | | ‡ ~ | И | | |) | 1000 | |
| ‡ | ‡ <u>;</u>] | | † | | | | | | |
| Becomes very stiff to hard. | · [3] | | ŧ | | | | | | |
| +' | 王 [3] | | I | | | | | | |
| <u>+</u> | I 121 | 12 | F 4 | \mathbb{N} | 34 | 7 | 6 | 1102 | |
| Ī | ‡ [:] | | ‡ | H | | | | | |
| Very stiff to hard, moist, dark brown to | 1/2 | 1 | ‡ | | | | | | |
| olive brown, SILTY CLAY (CL). | + 1/1 | | Ŧ | | | | | | |
|) | + 131 | | 5 | M | 43 | 6.6 | 6 | 1110 | |
| + | † 51 | | † ~ | Д | 40 | 0.0 | | ''' | |
| + | † [3] | | † | | | | | | |
| Very dense, moist, olive brown, SILTY fine | | | Ī | | | | | | |
| +grained SAND (SM), with some clay veinlet | s. <u>I</u> | 1 | I | | | | | | |
| Ī | 1 [3] | 12 | Ŧ 6 | X | 80 | 6.9 | 6 | 1117 | |
| | ± [3] | | ‡ | H | | | | | |
| ‡ | ‡ [3] | | ‡ | | | | | | |
| Very stiff to hard, moist, dark olive brown | · - 1/21 | | + | | | | | | a constant of the constant of |
| + CLAYEY SILT (MH). | <u> </u> | | 上7 | X | 9 | 6 | 6 | 1125 | |
| Project: DOUGLAS AIRCRAFT CO. | 1 | | ٠ (| \cap F | ן יי | $\Box \cap F$ | PINC | . WC | C-95 Fig B-39 |
| Project No.: 8941863J | L | ンし、 | J 🔻 | $O_{\mathbf{I}}$ | | DC^{T} | 1111 | 1 | ′ |



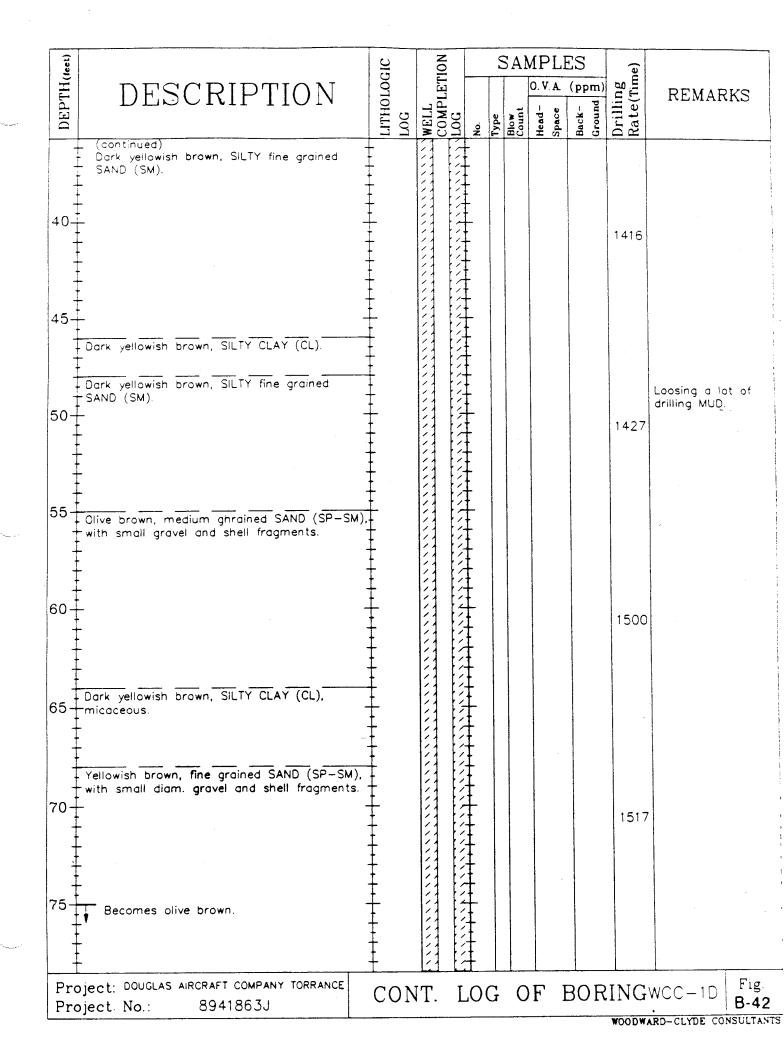


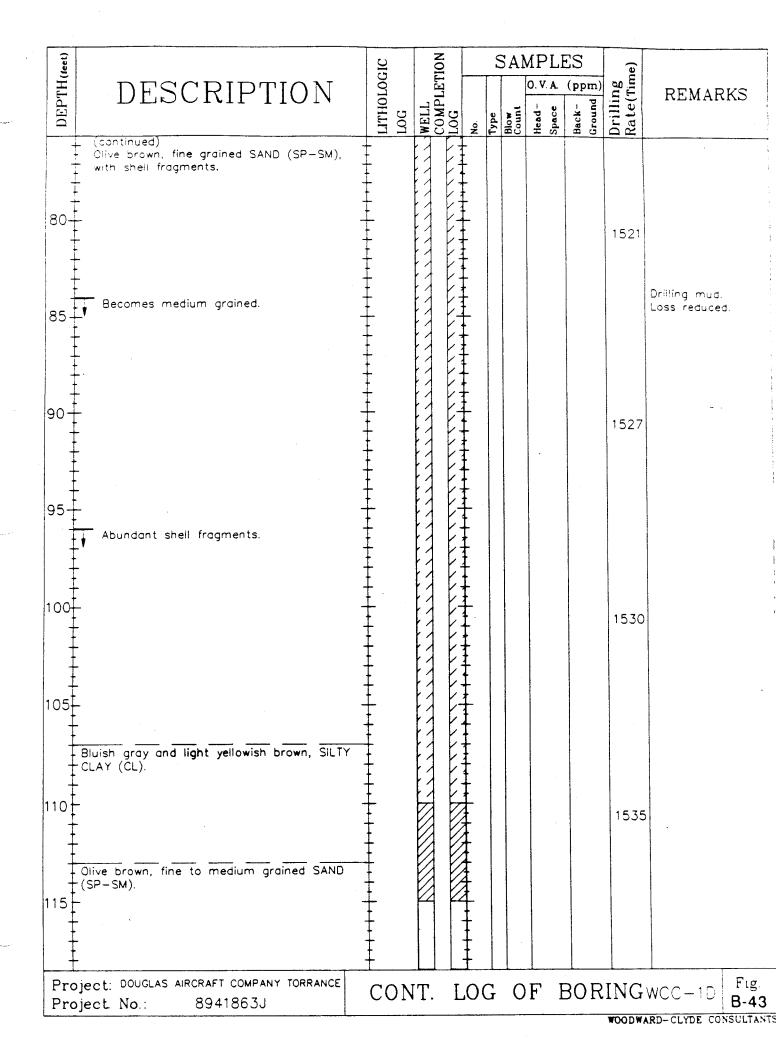
| BORING See Location Map | | | ELE | VATI DA | ON TUM | | 5 | 1.12 fe | et MSL |
|--|--------------------|---------------------------|--------------|-------------|-----------|----------------|----------------|------------------------|----------------------------|
| DRILLING A & R Driling, Inc. DRILLER | M. Ro | mero | DAT | | | 6-7- | | DATE | |
| DRILLING CME 75 with 8—inch O.D., H.S. | A. | | COM | PLE | TION | 9 | 0.8 | ROCK | |
| TYPE OF ISCORDA |).01 – in | ch | DIAM | METE | R O | F | 10 | DIAME | TER OF . |
| TYPE/SIZE OF Lonestar No. 0/30 | TYPE/TH OF SEAL | | | | | | | | clay grout 49 ft |
| No OF DIST. O UNDIST. 18 | CORE | 0 | LOG | GED | BY | | | | KED BY |
| WATER FIRST COMPL | 24 HRS. | _ | | | | aesm Reye: | | М | . Razmdjeo |
| DESCRIPTION | LITHOLOGIC LOG | WELL COMPLETION LOG | | SA | AM | PLE | S | ie) | |
| DESCRIPTION | 9 | 필 | | | Ľ | 0. V. A. | (ppm) | Drilling Rate(Time) | REMARKS |
| E DECOMMITTON | PHC G | S M F | | a l | 1 | -p | k- und | illi te(| |
| | LITH | ₩ 839 | O N | Type | Count | Head- Space | Back- Groun | Dr Ra | |
| 3 1/2-inch Asphalt concrete, over 9-inch | | | _ | | | 1 | 6 | 0954 | |
| Soft, very moist to saturated, black, SANDY | Ĺ | | Ì | | | | | | |
| CLAY (CL). Becomes very stiff, moist, dark yellowish | | | Ī | | | | | | |
| brown. | Ĺ | [4] | Ī | | | | | | |
| 5 - | | [3] [2] | 1 | M: | 24 | 1 | 7 | 1000 | |
| 3 T | Ĺ | | Ī | H | | | | | |
| <u> </u> | _ | | ł | | | | | | ÷ . |
| Medium dense, moist, olive brown, SILTY fine | _ | | l | | | | | | |
| grained SAND (SM), with trace of clay. | Ł | | ł | \square | | | | | |
| , T | | | <u> 2</u> | M | 13 | 1 | 7 | 1007 | |
| 7 | - | ; ; | F | \square | İ | | | | |
| Ţ . | F | | Ŧ | | | | | | |
| No clay. | F | [2] [2] | Ŧ | | İ | | | | |
| 7 | F | [3] [3 | Ŧ | | | | | | |
| _ 🕇 | F | | 7 3 | \square | 25 | 2 | 7 | 1013 | |
| 5+ | Ε. | 1/1 1/ | ŦĬ | \triangle | | _ | ' | | |
| ‡ | † | 1/1 1/2 | ‡ | | | | | | |
| - | ‡ | 121 [2 | ‡ | | | | | | |
| <u>+</u> | ‡ | | ‡ | | | | | | |
| + | <u>†</u> | [3] [3 | † , | \square | 21 | 0 | 6 | 1017 | |
| Yery stiff to hard, moist, dark yellowish brown | <u> </u> | | † ⁴ | \square | 21 | U | 0 | 1017 | |
| SANDY CLAY (CL). | <u> </u> | | † | | | | | | |
| - | ‡ | [4] | t | | | | | | |
| + | t | [2] [3 | t | | | | , , | | |
| Contains large nodules of calcium | + | E1 E | - | H | ارم | _ | | 1.00 | · |
| carbonate (HCL Reaction). | - | 团份 | ‡5 | M | 61 | 0 | 6 | 1024 | |
| - | Ŧ | KI K | Ŧ | | | | | | |
| - | ‡ | 1/1 1/ | + | | | | | | |
| <u> </u> | ‡ | | ‡ | | | | | | |
| Dense, moist, olive brown, SILTY fine grained + SAND (SM). | ‡ | | ‡ | | | | | | |
|)+ | ‡ | | ‡6 | X | 36 | 1 | 6 | 1031 | |
| ‡ | ‡ | | ‡ | H | | | | | |
| ‡ | ‡ | 13 13 | ‡ | | | | | | |
| | ‡ | 1/1 1/ | ‡ | | | | | | |
| Dense, moist, olive brown, fine grained SAND | ţ | K1 14 | ‡ | Ш | | | | | |
| to SILTY SAND (SP-SM). | <u> </u> | | 17 | M | 32 | 2 | 6 | 1038 | |
| | L | 1111 | 1 | <u>K Y</u> | | L | <u> </u> | <u> </u> | |
| Project: DOUGLAS AIRCRAFT COMPANY TORRANCE | | LOC | ; (| OF | ٠ ، | BOF | RINC | J WC | $C-10S$ $\frac{Fig}{B}$ 20 |
| Project No.: 8941863J | | | - ` | | | | | | B-38 |
| | | | | | | | | #UUU# | ROE OC 0003530 |

| (feet) | | CIC | | LETION | | | S | | | LE | | | me) | | |
|---|--|---|----|----------------|----|---|--------|---------------|-----|----------------|------------|----------|------------------------|------------|------------|
| DEPTH(feet) | DESCRIPTION | LITHOLOGIC | | COMPLE | 00 | ó | /pe | Blow Count | ļ . | Space | Back- ndd) | 2) | Drilling Rate(Time) | REMARK | KS |
| + | Dense, moist, olive brown, fine grained SAND to SILTY SAND (SP-SM). | <u> </u> | | 1 | | Ž | Ē. | <u> </u> | Ĭ | I _S | <u> </u> | 5 6 | | | |
| 0 | Dense to very dense, damp, pale brown, fine grained SAND (SP). | † † † | | | | _8 | X | 46 | | 1 | 6 | | 1045 | | |
| +++++++++++++++++++++++++++++++++++++++ | | | | ***** | | - | | | | | | | | | |
| 5+ | | + | | | | 9 | | 55 | | 2 | 6 | | 1054 | | |
| 0 | Becomes olive brown. | + | | | | : - - 10: | X | 43 | | 2 | 6 | | 1106 | <u>.</u> . | |
| 5 | Dense, moist, olive brown, GRAVELLY medium | + + + + + + + + | | | | · · · · · 1 ' | | 32 | , | 1 | 4 | | 1115 | | |
| 0 | yery dense, moist, dark olive, CLAYEY fine grained SAND (SC). Very dense, moist, olive, SILTY fine grained SAND (SM). | #. + + + + + + + + + + + + + + + + + + + | | | | 12 | 2 | 90 | | 1 | 4 | | 1136 | | |
| 5 | | + | | | | 1 | 3 | 74 | 1 | 3 | 4 | | 1141 | | |
| 0++++ | | T + + + + + + + + + + + + + + + + + + + | | | | 1 | 4 | 5 | 1 | NR | 4 | + | 1203 | | |
| 5++++ | Becomes wet, olive brown. | +++++++++++++++++++++++++++++++++++++++ | | | | +++++++++++++++++++++++++++++++++++++++ | 5 | 12 | 5 | 10 | 2 | 1 | 1215 | | |
| | ject: Douglas aircraft company torrance ject No.: 8941863J | t CO | N' | <u>Ε</u> Γ. | | ,O | ⊥ G | | F | ' I | 30 | RI | ING | WCC-10S | Fig B-3 |



| Core yellowin brown, Silty Clay (CL), with Core yellowin brown, Silty Clay (CL), with Core yellowin brown, Silty fine grained SAND (SC), with grained send. Core yellowin brown, Silty fine grained SAND (SC), with gr | PARING | | | | 1913 | VATIO | N | | | |
|--|--------------|--|----------------|----------|--|-------|-------------------|--------------------|-----------|-----------------------|
| Settlement Set | | See Location Map | FR C | | | | | | | į. |
| THE CASING PVC Sch. 40 PERFORMING 0.01 inch BERNAT (R) PV CASING PVC Sch. 40 PERFORMING 0.01 inch BERNAT (R) P | AGENCY | beylik Drilling, Inc. | U. J | ones | | | | | | |
| ### Cashe PV Sch. 40 Perspection School (in) PV PV PV PV PV PV PV P | EQUIPMENT | | | | DEP' | TH (1 | (t) ' | | DEPTH | H (ft) |
| STATE (II) FIRST COMPL 24 HBS DOCED BY Reyes P. Claesman Charlet Complete Complete Charlet Charlet Complete Charlet | WELL CASI | | | | BOR | ING (| (in.) | | | |
| DESCRIPTION DESCR | SAND PACE | Correstor No. 0750 | | | LOG | GED | BY | ets o | | |
| DESCRIPTION DESCR | | 1 4 1 | 1 | | - | | l. Reyes | 5 | | |
| 5 non Aspnat concrete over 6 inch base material material park yellowish brown. CLAYEY fine grained SAND (SC), with small alameter grove. 5 Dank yellowish brown, SILTY CLAY (CL), with fine grained sand. 10 Tine grained sand. 1308 Stopped drilling to repair arill rig. 1400 Resumed drilling to repair arill rig. 1400 Resumed drilling to repair arill rig. 1500 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 40 Dank yellowish brown. SILTY fine grained SAND (SW). 40 Dank yellowish brown. SILTY fine grained SAND (SW). 41 Dank yellowish brown. SILTY fine grained SAND (SW). 42 Dank yellowish brown. SILTY fine grained SAND (SW). 43 Dank yellowish brown. SILTY fine grained SAND (SW). 44 Dank yellowish brown. SILTY fine grained SAND (SW). 45 Dank yellowish brown. SILTY fine grained SAND (SW). 46 Dank yellowish brown. SILTY fine grained SAND (SW). | DEPTH (ft) | That court | | T | | | | | | , |
| 5 non Aspnat concrete over 6 inch base material material park yellowish brown. CLAYEY fine grained SAND (SC), with small alameter grove. 5 Dank yellowish brown, SILTY CLAY (CL), with fine grained sand. 10 Tine grained sand. 1308 Stopped drilling to repair arill rig. 1400 Resumed drilling to repair arill rig. 1400 Resumed drilling to repair arill rig. 1500 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 40 Dank yellowish brown. SILTY fine grained SAND (SW). 40 Dank yellowish brown. SILTY fine grained SAND (SW). 41 Dank yellowish brown. SILTY fine grained SAND (SW). 42 Dank yellowish brown. SILTY fine grained SAND (SW). 43 Dank yellowish brown. SILTY fine grained SAND (SW). 44 Dank yellowish brown. SILTY fine grained SAND (SW). 45 Dank yellowish brown. SILTY fine grained SAND (SW). 46 Dank yellowish brown. SILTY fine grained SAND (SW). | [eet] | | 25 | 01. | | SA | MPLE | $S_{\underline{}}$ | 1e) | : |
| 5 non Aspnat concrete over 6 inch base material material park yellowish brown. CLAYEY fine grained SAND (SC), with small alameter grove. 5 Dank yellowish brown, SILTY CLAY (CL), with fine grained sand. 10 Tine grained sand. 1308 Stopped drilling to repair arill rig. 1400 Resumed drilling to repair arill rig. 1400 Resumed drilling to repair arill rig. 1500 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 40 Dank yellowish brown. SILTY fine grained SAND (SW). 40 Dank yellowish brown. SILTY fine grained SAND (SW). 41 Dank yellowish brown. SILTY fine grained SAND (SW). 42 Dank yellowish brown. SILTY fine grained SAND (SW). 43 Dank yellowish brown. SILTY fine grained SAND (SW). 44 Dank yellowish brown. SILTY fine grained SAND (SW). 45 Dank yellowish brown. SILTY fine grained SAND (SW). 46 Dank yellowish brown. SILTY fine grained SAND (SW). | [H] | DESCRIPTION | Ŏ | E | | | O. V. A. | | ng Tin | REMARKS |
| 5 non Aspnat concrete over 6 inch base material material park yellowish brown. CLAYEY fine grained SAND (SC), with small alameter grove. 5 Dank yellowish brown, SILTY CLAY (CL), with fine grained sand. 10 Tine grained sand. 1308 Stopped drilling to repair arill rig. 1400 Resumed drilling to repair arill rig. 1400 Resumed drilling to repair arill rig. 1500 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 30 Dank yellowish brown. SILTY fine grained SAND (SW). 40 Dank yellowish brown. SILTY fine grained SAND (SW). 40 Dank yellowish brown. SILTY fine grained SAND (SW). 41 Dank yellowish brown. SILTY fine grained SAND (SW). 42 Dank yellowish brown. SILTY fine grained SAND (SW). 43 Dank yellowish brown. SILTY fine grained SAND (SW). 44 Dank yellowish brown. SILTY fine grained SAND (SW). 45 Dank yellowish brown. SILTY fine grained SAND (SW). 46 Dank yellowish brown. SILTY fine grained SAND (SW). | EP. | DESCRIPTION | - HO | G MP | | 0 E | d- ce | k- und | te (| |
| Total Vellowish brown, CLAYEY fine grained SAND (SC), with small diameter grovel. 5 10 Dark yellowish brown, SILTY CLAY (CL), with fine grained sand. 110 Dark yellowish brown, SILTY CLAY (CL), with fine grained sand. 15 15 20 25 26 27 27 27 27 27 27 27 27 27 | | | | ₩839 | o Z | Typ | Cou Hea Spa | Bac | Dr Ra | |
| Dark yellowish brown, SiLTY CLAY (CL), with line grained sand. Dark yellowish brown, SiLTY CLAY (CL), with line grained sand. Stopped drilling to repair drill right repair drilling right repair | | | ie _ | 4 4 | 1 | | | | 1235 | |
| SAND (SC), with small diameter grovel. 5 1303 1303 1308 15 15 25 25 25 26 27 28 29 20 25 27 28 29 20 20 21 20 21 20 21 20 21 20 21 20 21 20 21 20 21 20 21 20 20 | Dark | yellowish brown, CLAYEY fine grained | 1 | 0 0 | } | | | | | |
| Dark yellowish brown, SiLTY CLAY (CL), with 15 20 Stopped drilling to repair drill 1313 rig. 1400 Resumed drilling to repair drill 15 rig. Project, DOUGLAS AIRCRAFT COMPANY TORRANCE Project No.: 8840863J LOG OF BORING WCC-10 Fig. B-41 | I SAN | D´(SC), with small diameter gravel. | <u> </u> | | 1 | | | | | |
| Dark yellowish brown, SiLTY CLAY (CL), with 15 20 Stopped drilling to repair drill 1313 rig. 1400 Resumed drilling to repair drill 15 rig. Project, DOUGLAS AIRCRAFT COMPANY TORRANCE Project No.: 8840863J LOG OF BORING WCC-10 Fig. B-41 | 1 | | ‡ | | ‡ | | | | | • |
| Dark yellowish brown, SiLTY CLAY (CL), with 15 20 Stopped drilling to repair drill 1313 rig. 1400 Resumed drilling to repair drill 15 rig. Project, DOUGLAS AIRCRAFT COMPANY TORRANCE Project No.: 8840863J LOG OF BORING WCC-10 Fig. B-41 | 5 + | | ‡ | 1/1 /2 | + | | | | | |
| 15 — 1308 20 — 1308 25 — 1400 Resumed drilling to repair drill rig. 1400 Resumed drilling to repair drill rig. 1400 Resumed drilling to repair drill rig. 1400 Resumed drilling to repair drill rig. 1400 Resumed drilling storage to the repair drill rig. 1400 Resumed drilling storage to the repair drill rig. 1400 Resumed drilling storage to the repair drill rig. 1400 Resumed drilling storage to the repair drill rig. 1400 Resumed drilling storage to the repair drill rig. 1500 Resumed drilling storage to the repair drill rig. 1500 Resumed drilling storage to the repair drill rig. 1500 Resumed drilling storage to the repair drill rig. 1500 Resumed drilling storage to the repair drill rig. 1500 Resumed drilling storage to the repair drill rig. 1500 Resumed drilling storage to the repair drill rig. 1500 Resumed drilling storage to the repair drill rig. 1500 Resumed drilling storage to the right storage to | | | ‡ | | ‡ | | | | 1303 | |
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| Stopped drilling to repair drill 1313 rig. 1400 Resumed drilling to repair drill 1400 Resumed drilling to repair drill 150 rig. 1400 Resumed drilling 1400 Resumed drilling 150 rig. 1400 Resumed drilling 150 rig. 1400 Resumed drilling 150 rig. 1400 Resumed drilling 150 rig. 1400 Resumed drilling 150 rig. 1400 Resumed drilling 150 rig. 1400 Resumed drilling 150 rig. 1400 Resumed drilling 150 rig. 1400 Resumed drilling 150 rig. 1400 Resumed drilling 150 rig. | 10 + fine | grained sand. | · | 1/1 // | + | | | | | |
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| Stopped drilling to repair drill 30 - Dark yellowish brown, SILTY fine grained SAND (SM) Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | 15 + | | + | 131 13 | + | | | | 1308 | |
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| Stopped drilling to repair drill 1313 rig. 1400 Resumed drilling 150 Stopped drilling 151 Stopped drilling 151 Stopped drilling 151 Stopped drilling 152 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 154 Stopped drilling 155 Stopped drilling 156 Stopped drilling 157 Stopped drilling 158 Stopped drilling | 1 + | | + | 1/4 1/ | / | | | | | |
| Stopped drilling to repair drill 1313 rig. 1400 Resumed drilling 150 Stopped drilling 151 Stopped drilling 151 Stopped drilling 151 Stopped drilling 152 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 154 Stopped drilling 155 Stopped drilling 156 Stopped drilling 157 Stopped drilling 158 Stopped drilling | + | | † | 161 F | # | | | | | ! |
| Stopped drilling to repair drill 1313 rig. 1400 Resumed drilling 150 Stopped drilling 151 Stopped drilling 151 Stopped drilling 151 Stopped drilling 152 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 153 Stopped drilling 154 Stopped drilling 155 Stopped drilling 156 Stopped drilling 157 Stopped drilling 158 Stopped drilling | + | | ‡ | | # | | | | | |
| 25 - 1313 rig. 1400 Resumed drilling Dark yellowish brown, SILTY fine grained SAND (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | 20+ | | + | 1/4 [/ | # | | | | | |
| 25 - 1313 rig. 1400 Resumed drilling Dark yellowish brown, SILTY fine grained SAND (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | | | ‡ | 131 13 | # | | | | | |
| 25 - 1313 rig. 1400 Resumed drilling Dark yellowish brown, SILTY fine grained SAND (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | | | ‡ | | 7 | | | | | |
| 25 - 1313 rig. 1400 Resumed drilling Dark yellowish brown, SILTY fine grained SAND (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | + | | ‡ | 1/1 | 7 | | | | | Stopped drilling |
| 30 Dark yellowish brown, SILTY fine grained SAND (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | + | | Ŧ | [2] F | Ŧ | | | | | 1 ' ' |
| Dark yellowish brown, SILTY fine grained SAND- (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | 25+ | | Ŧ | | 王 | | | | 1313 | rig. |
| Dark yellowish brown, SILTY fine grained SAND- (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | | | Ŧ | 1/4 | Œ | | | | 1400 | Resumed drilling |
| Dark yellowish brown, SILTY fine grained SAND- (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | | | Ŧ | 131 | I | | | | | |
| Dark yellowish brown, SILTY fine grained SAND- (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | | | Ī | | 狂。 | | | | | |
| Dark yellowish brown, SILTY fine grained SAND- (SM). Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | 30 = | | <u> </u> | 121 | 4 | | | | | |
| Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | | | 1 | 121 | 4 | | | | | |
| Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | I | | <u></u> | | 4 | | | | | |
| Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | | | | 1/1 | 4 | | | | | |
| Project: DOUGLAS AIRCRAFT COMPANY TORRANCE Project: No.: 8840863J LOG OF BORING WCC-1D Fig. B-41 | | | AND | [2] | 4 | | | | | |
| Project: DOUGLAS AIRCRAFT COMPANY TORRANCE LOG OF BORING WCC-10 B-41 | · • · | 1. | ‡ | | 4 | | | | | |
| Project No.: 8840863J LOG OF BORING B-41 | | A. DOLICI AS AIRCRAFT COMPANY TOPRANCE | | <u> </u> | ــــــــــــــــــــــــــــــــــــــ | | | | | 00 10 F10 |
| | | | | LO | G | OF | ' BOI | RIN | G^{W} | CC-10 B-41 |
| #OOD HARD—CEIDS CONSULTANT | Frojec | 1 110 00100000 | | | | | | | | WARD-CLYDE CONSULTANT |

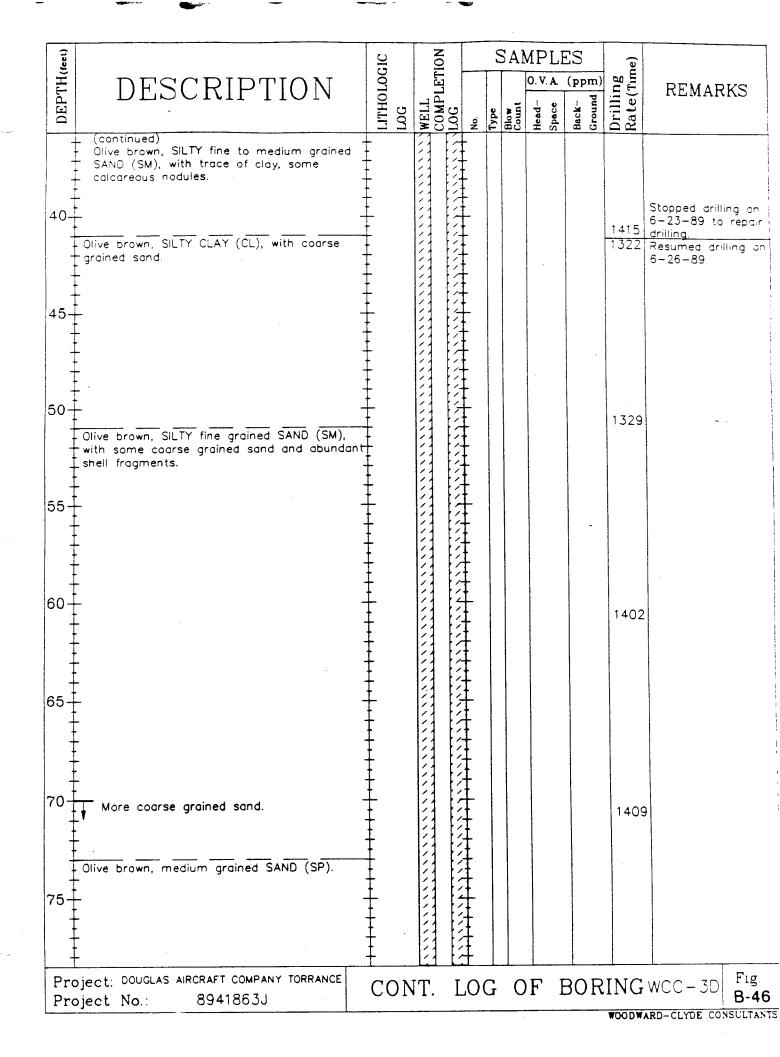


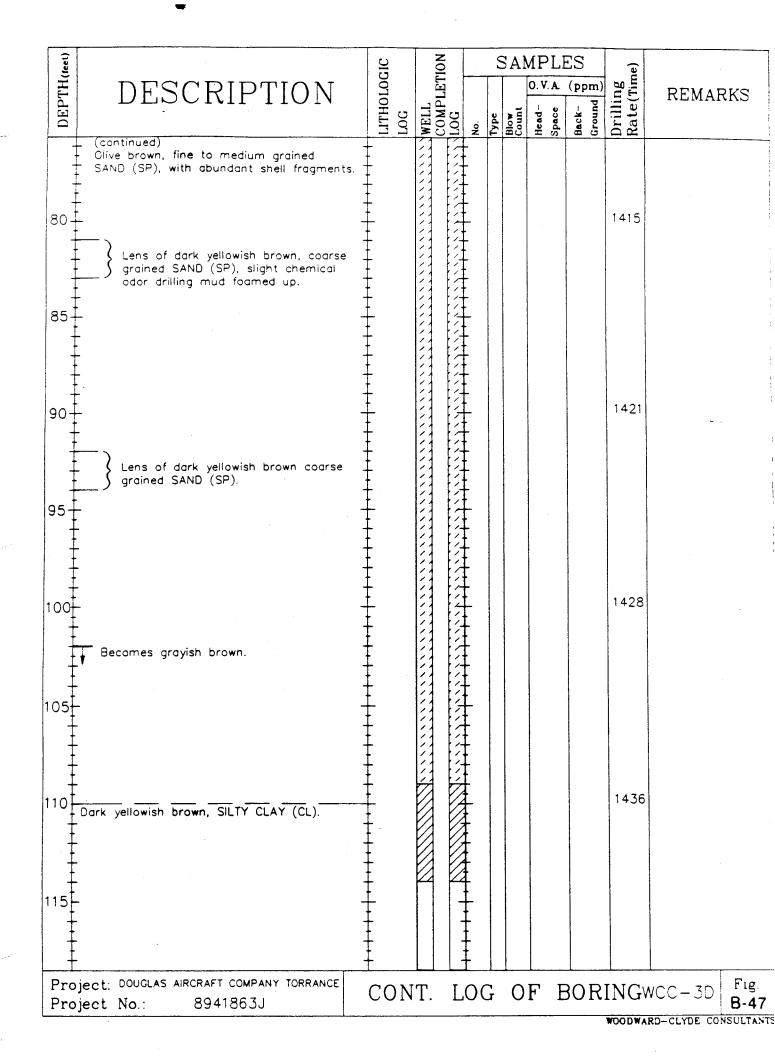


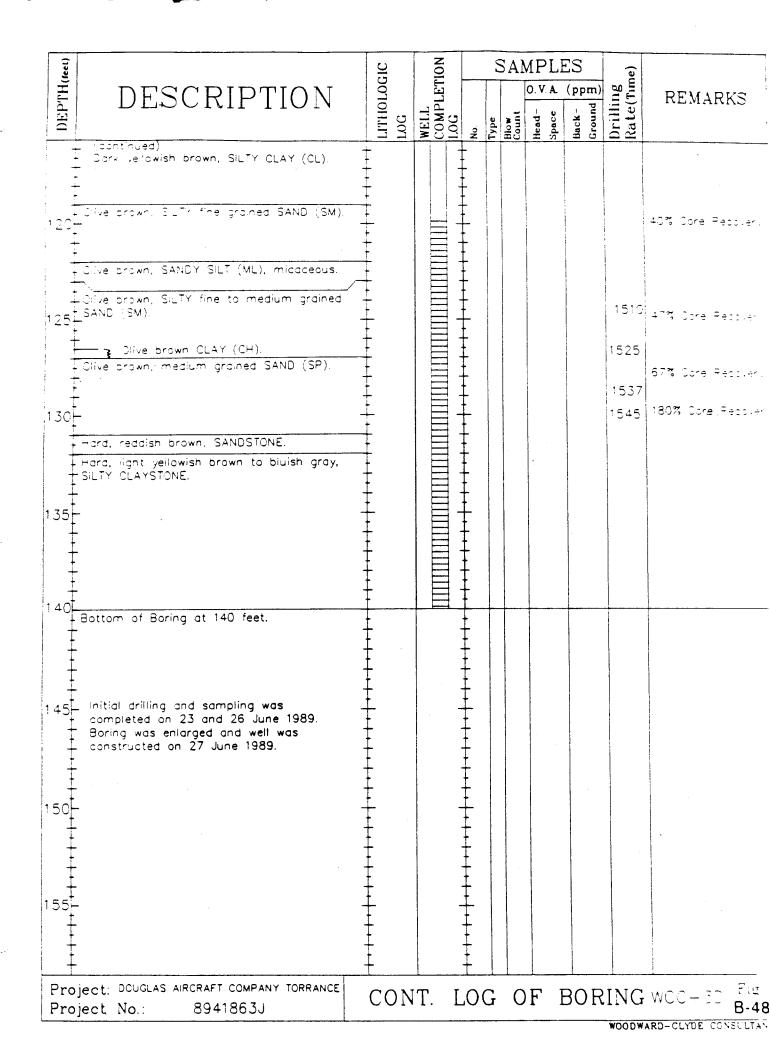
| (cet) | |)!C | NOI | | S | SAN | ΛP: | LE | S | le) | | |
|---|---|--|---------------------------|---|---------|---------------|-----|----|----------------------|------------------------|--------------|---------------------|
| DEPTH(feet) | DESCRIPTION | LITHOLOGIC LOG | WELL COMPLETION LOG | No. | Type | Blow Count | | | Back- do Ground m | Drilling Rate(Time) | REMARK | (S |
| + | Olive brown, fine to medium grained SAND (SP-SM). | + | | + | | | | | | | | |
| ‡ 20= | . Hard, olive, SILT (ML), micaceous (SILTSTONE? | <u></u> | | ‡ + | | - | | | | 1604 | | |
| | -Olive brown, medium grained SAND (SP). | - | | I I I I I | | | | | | | 50% Core Rec | overy |
| ‡ | -Moist, olive, SILT (ML), micaceous. - | + | | + ' | | | | | | | | |
| 25 | Olive, SILTY fine grained SAND (SM). | <u> </u> | | † | | | | | | 1615 | 60% Core Rec | over: |
| - | Dark yellowish brown, medium grained - SAND (SP). | + | | T 2 | | | | | | | | |
| 30 | - - | + | | ‡ † | + | | | | | 1644 | | |
| + | - | + | | ‡ 3 | | | | | | | 20% Core Rec | :over |
| - 35 | <u>-</u> | +++++++++++++++++++++++++++++++++++++++ | | +++++++++++++++++++++++++++++++++++++++ | | - | | | | 1701 | | |
| | Dark yellowish brown, and bluish gray, SILTY -CLAY (CL). | +++++++++++++++++++++++++++++++++++++++ | | 4 | | | | | | | 20% Core Red | sover |
| 40 | Bottomof Boring at 140 feet. | + | 目 | + | \prod | | | | | 1725 | | |
| + | | +++++++++++++++++++++++++++++++++++++++ | | Ŧ + + | | | | | | | | |
| 45 | Initial drilling and sampling was completed on 28 June 1989. Boring was enlarged and well was constructed on 29 and 30 June 1989. | + | | + + + + + + + + + + + + + + + + + + + | | | | | | | | |
| 50 | - | + | | + | | | | | | | | |
| 55 | . | +++++++++++++++++++++++++++++++++++++++ | | ++++ | | | | | | | | |
| +++++++++++++++++++++++++++++++++++++++ | - - | ‡ | | + + + | | | | | | | | |
| | oject: Douglas aircraft company torrance oject No.: 8941863J | CON | 1T.] | LO(| ц G | 0 | F | E | BOR | ING | . VV((— | F1g B-4 4 |

| BORING LOCATION | See Loca | ation Map | - | | ELEV | ATION DATU | <u> </u> | 5 | 1.18 f | eet MSL | |
|--------------------------|---------------------------------------|-----------------------|--------------|---------------------------|---------------------|-----------------------|----------------|-----------------|------------------------|---------------|--------------|
| | Beylik Drilling, Inc. | DRILL | ER D. J | lones | | | 6-23 | | DATE | | -89 |
| DRILLING EQUIPMENT | Ingersal Rand | d, Mud Rotary | / | | COM | PLETIO TH (ft) | N 1 | 40 | ROCK DEPTH | | |
| TYPE OF WELL CASING | PVC Sch. 40 | SCREEN PERFORATION | 0.01 in | ch | DIAM | ETER NG (ir | OF | 10 | DIAME | TER OF | <u> </u> |
| TYPE/SIZE O SAND PACK | F Lonestar | | | HICKNESS L(S) | | | | | | clay grout 10 | 6 ft. |
| No OF SAMPLES | DIST. 4 | UNDIST. O | CORE | 0 | LOGG | GED B | Y | | | KED BY | |
| WATER DEPTH (ft) | FIRST | COMPL | 24 HRS | | | | Reye Slaesm | | М | . Razmdjo | 0 |
| | | | (2) | Z | | | MPLE | | | | |
| EPTH (reet) | | | LOG | WELL COMPLETION LOG | | DAI | | | Drilling Rate(Time) | | |
| | DESCRIF | PTION | 010 | E | | | | (ppm) | in (Ti | REMAR | :KS |
| 百 | | | LOG | OME DG AFF | | Type Blow Count | Head- Space | Back- Ground | rill | | |
| | | | | ₹ 55 | Š | Type Blow | S H | 8 5 | <u>Q</u> % | | |
| | ch asphalt concrete of Base material. | cover. / | <u>/</u> | 0 0 | + | | | | 1326 | | |
| Dark) | yellowish brown, SILTY | fine grained | ‡ | Q | <u> </u> | | | , | | | |
| T SAND | (SM). | | ‡ | 0 | ‡ | | | | | | |
| ‡ | | | ‡ | 121 12 | + | | | | | | |
| 5 ‡ | . 1 | | + | [2] [4 | - | | | | | | |
| ‡ • | | | ‡ | 131 13 | - | | | | | | |
| ‡ | , | | + | 1/1 // | - | | | | | | |
| ‡ | | | Ŧ | 121 12 | - | | | | | - | • |
| ‡ | | | Ŧ | 131 13 | Ŧ | | | | | | |
| 10 wit | h some clay. | | \pm | 131 3 | $\overline{\Gamma}$ | | | | 1347 | | |
| ‡ ♥ '' '` | ii some cidy. | | Ŧ | 1/1 // | [| | | | | | |
| ‡ | | | Ŧ | 131 6 | Ŧ | | 1 | | | | |
| + | | | Ŧ | 131 13 | $\frac{1}{1}$ | | | | | | |
| ‡ | | | Ŧ | 3 3 | Ŧ | | | | | | |
| 15 🕂 | | , | Ŧ | 1/1 1/2 | Ŧ | | | | | | |
| + | | | Ŧ | 121 6 | Ŧ | | | | | | |
| ‡ | | | Ŧ | | Ŧ | | | | | | |
| ‡ | | | Ŧ | 121 12 | Ŧ | | | | | | |
| ‡ | | | Ŧ | 121 [2 | Ŧ | | | | | | |
| 20 🕂 | | | + | 121 [3 | + | | | | 1352 | | |
| ‡ | | | - | 131 13 | $\frac{1}{1}$ | | | | | | |
| ‡ | | | Ŧ | 131 13 | Ŧ | | | | | | |
| ‡ | | | Ŧ | 1/1 1/2 | \pm | | | | | | |
| ‡ | | | Ŧ | 131 [3 | \pm | | | | | | |
| 25 + Rec | comes oliv e brown, fir | ne to medium | + | | \perp | | | | | | |
| | TY grained SAND (SM | | Ŧ | 13 13 | Ŧ | | | | | | |
| ‡ | | | Ŧ | 1/1 1/ | - | | | | 1 | | |
| ‡ | | | ‡ | 121 [2 | + | | | | | | |
| ‡ | | | ‡ | 131 13 | + | | | | | | |
| 30‡ | | | + | 1/1 1/2 | 7 | | | | | | |
| + Ba | comes clayey with sor | me calcareous | ‡ | 1/4 1/2 | + | | | | 1358 | 3 | |
| | dules. | ing Calcal eous | ‡ | [3] | + | | | | | | |
| ‡ | | | Ŧ | 131 13 | 7 | | | | | | |
| ‡ | | | + | 1/1 / | 7 | | | | | | |
| 35 井 | | | + | | \pm | | | | | | |
| Project | DOUGLAS AIRCRAFT COM | PANY TORRANCE | | | | | D • | | ~ | 70 | Fig |
| Project | | | • | LOC | ; (| OF. | RO1 | KIN(| JW (| CC – 3D | B-4 |
| | | Ī | | | | | | | | | |

WOODWARD-CLYDE CONSULTANTS







APPENDIX C ANALYTICAL RESULTS

June 28, 1989

WOODWARD-CLYDE CONSULTANTS 203 N. Golden Circle Drive Santa Ana, CA 92705

Attn:

Dr. Alistaire Callender

JOB NO.

12944



LABORATORY REPORT

Samples Received: Fifty-five (55) soils

Date Received: 6-13-89

Date Released for Analysis: 6-20-89

Purchase Order No: Proj#: 8941863J-Task 1/Douglas Aircraft Co.

The samples were analyzed as follows:

Samples Analyzed

<u>Analysis</u>

Results

Thirteen (13) soils

Halogenated and Aromatic

Volatile Organics by EPA 8010/8020

Data Sheets

Page 1 of 1

Shelley Stuart Senior Chemist

Fr D.J. Northington, Ph.D.

Technical Director

Job No: 12944

Date

Matrix: Soil Analyzed: 25-Jun-89

Samp Amt: Dil Fact: 1 gm Analysis: EPA 601/602 (8010/8020) 1

Sample:

B-6-3-3

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 0.005 |
| Bromomethane | ND | 0.005 |
| Vinyl Chloride | ND | 0.003 |
| Chloroethane | ND | 0.005 |
| Methylene Chloride | 0.053 | 0.025 |
| 1,1-Dichloroethylene | ND | 0.003 |
| 1,1-Dichloroethane | 0.011 | 0.002 |
| trans-1,2-Dichloroethylene | ND | 0.002 |
| Trichlorofluoromethane | ND | 0.002 |
| Chloroform | ND | 0.002 |
| 1,2-Dichloroethane | ND | 0.002 |
| 1,1,1-Trichloroethane | 0.016 | 0.002 |
| Carbon Tetrachloride | ND | 0.002 |
| Bromodichloromethane | ND | 0.002 |
| 1,1,2,2-Tetrachloroethane | ND | 0.002 |
| 1,2-Dichloropropane | ND | 0.002 |
| trans-1,3-Dichloropropylene | ND | 0.002 |
| Trichloroethylene | ND | 0.002 |
| Dibromochloromethane | ND | 0.002 |
| 1,1,2-Trichloroethane | ND | 0.002 |
| Benzene | ND | 0.001 |
| cis-1,3-Dichloropropylene | ND | 0.002 |
| 2-Chloroethyl Vinyl Ether | ND | 0.004 |
| Bromoform | ND | 0.003 |
| Tetrachloroethylene | ND | 0.002 |
| Toluene | 0.064 | 0.001 |
| Chlorobenzene | ND | 0.004 |
| Ethylbenzene | 0.001 | 0.001 |
| Total Xylenes | 0.009 | 0.001 |
| 1,3-Dichlorobenzene | ND | 0.001 |
| 1,4-Dichlorobenzene | NĎ | 0.001 |
| 1,2-Dichlorobenzene | ND | 0.001 |

Job No: 12944

Date

Matrix: Soil Analyzed: 23-Jun-89 Samp Amt:

Analysis: EPA 601/602 (8010/8020) Dil Fact: 50≏

Sample:

B-6-5-3 23

| Compound | Concentration mg/Kg | Detection Limits ========= |
|--|------------------------|----------------------------------|
| Chloromethane Bromomethane Vinyl Chloride Chloroethane Methylene Chloride 1,1-Dichloroethylene 1,1-Dichloroethylene 1,1-Dichloroethane trans-1,2-Dichloroethylene Trichlorofluoromethane Chloroform 1,2-Dichloroethane 1,1,1-Trichloroethane Carbon Tetrachloride Bromodichloromethane 1,1,2,2-Tetrachloroethane 1,2-Dichloropropane trans-1,3-Dichloropropylene Trichloroethylene Dibromochloromethane 1,1,2-Trichloroethane Benzene cis-1,3-Dichloropropylene 2-Chloroethyl Vinyl Ether Bromoform Tetrachloroethylene Toluene Chlorobenzene Ethylbenzene | | |
| Total Xylenes 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene | 390 ND ND ND | 0.5 0.5 0.5 0.5 |

Client: WOODWARD-CLYDE CONSULTANTS Sample:

Job No: 12944

Date

Soil Matrix:

Analyzed: 23-Jun-89 Analysis: EPA 601/602 (8010/8020) Samp Amt: 1 gm Dil Fact: 5000

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 25 |
| Bromomethane | ND | 25 |
| Vinyl Chloride | ND | 15 |
| Chloroethane | ND | 25 |
| Methylene Chloride | ND | . 125 |
| 1,1-Dichloroethylene | ND | 15 |
| 1,1-Dichloroethane | ND | 10 |
| trans-1,2-Dichloroethylene | ND | 7.5 |
| Trichlorofluoromethane | ND | 10 |
| Chloroform | ND | 7.5 |
| 1,2-Dichloroethane | ND | 10 |
| 1,1,1-Trichloroethane | ND | 7.5 |
| Carbon Tetrachloride | ND | 7.5 |
| Bromodichloromethane | ND | 7.5 |
| 1,1,2,2-Tetrachloroethane | ND | 7.5 |
| 1,2-Dichloropropane | ND | 7.5 |
| trans-1,3-Dichloropropylene | ND | 7.5 |
| Trichloroethylene | ND | 7.5 |
| Dibromochloromethane | ND | 7.5 |
| 1,1,2-Trichloroethane | ND | 7.5 |
| Benzene | ND | 5 |
| cis-1,3-Dichloropropylene | ND | 7.5 |
| 2-Chloroethyl Vinyl Ether | ND | 20 |
| Bromoform | ND | 12.5 |
| Tetrachloroethylene | ND | 7.5 |
| Toluene | 48 | 5 |
| Chlorobenzene | ND | 25 |
| Ethylbenzene | ND | 5 |
| Total Xylenes | 21 | 5 |
| 1,3-Dichlorobenzene | ND | 5 |
| 1,4-Dichlorobenzene | ND | 5 |
| 1,2-Dichlorobenzene | ND | 5 |

ND-Not Detected. The limit of detection is reported above.

B-6-7-3

Job No: 12944

Date

Analyzed: 23-Jun-89

Analysis: EPA 601/602 (8010/8020)

Sample: B-6-7-4

Matrix: Soil

Samp Amt:

Dil Fact: 1000

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | |
| Bromomethane | ND | 5 |
| Vinyl Chloride | ND | 3 |
| Chloroethane | ND | 5 |
| Methylene Chloride | ND | 25 |
| 1,1-Dichloroethylene | ND | 3 |
| 1,1-Dichloroethane | ND | 2 |
| trans-1,2-Dichloroethylene | ND | 1.5 |
| Trichlorofluoromethane | ND | 2 |
| Chloroform | ND . | 1.5 |
| 1,2-Dichloroethane | ND | 2 _ |
| 1,1,1-Trichloroethane | ND | 1.5 |
| Carbon Tetrachloride | ND | 1.5 |
| Bromodichloromethane | ND | 1.5 |
| 1,1,2,2-Tetrachloroethane | ND | 1.5 |
| 1,2-Dichloropropane | ND | 1.5 |
| trans-1,3-Dichloropropylene | ND | 1.5 |
| Trichloroethylene | ИD | 1.5 |
| Dibromochloromethane | ND | 1.5 |
| 1,1,2-Trichloroethane | ND | 1.5 |
| Benzene | ND | 1 |
| cis-1,3-Dichloropropylene | ND . | 1.5 |
| 2-Chloroethyl Vinyl Ether | ND | 4 |
| Bromoform | ND | 2.5 |
| Tetrachloroethylene | ND | 1.5 |
| Toluene | 19 | 1 |
| Chlorobenzene | ND | 5 |
| Ethylbenzene | ND | 1 |
| Total Xylenes | 6 | ī |
| 1,3-Dichlorobenzene | ND | ī |
| 1,4-Dichlorobenzene | ND | ī |
| 1,2-Dichlorobenzene | ND | i |

Client: WOODWARD-CLYDE CONSULTANTS Sample: B-6-9-3

Job No: 12944

Date Matrix: Soil

Analyzed: 23-Jun-89 Samp Amt: 1 gm Analysis: EPA 601/602 (8010/8020) Dil Fact: 1000

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 5 |
| Bromomethane | ND | 5 |
| Vinyl Chloride | ND | 3 |
| Chloroethane | ND | 5 |
| Methylene Chloride | ND | 25 |
| 1,1-Dichloroethylene | ND | 5 |
| 1,1-Dichloroethane | ND | 2 |
| trans-1,2-Dichloroethylene | ND | 1.5 |
| Trichlorofluoromethane | ND | 2 |
| Chloroform | ND | 1.5 |
| 1,2-Dichloroethane | ND | 2 . |
| 1,1,1-Trichloroethane | 59 | 1.5 |
| Carbon Tetrachloride | ND | 1.5 |
| Bromodichloromethane | ND . | 1.5 |
| 1,1,2,2-Tetrachloroethane | ND | 1.5 |
| 1,2-Dichloropropane | ND | 1.5 |
| trans-1,3-Dichloropropylene | ND | 1.5 |
| Trichloroethylene | 23 | 1.5 |
| Dibromochloromethane | ND . | 1.5 |
| 1,1,2-Trichloroethane | ND | 1.5 |
| Benzene | ND | 1 |
| cis-1,3-Dichloropropylene | ND | 1.5 |
| 2-Chloroethyl Vinyl Ether | ND | . 4 |
| Bromoform | ND | 2.5 |
| Tetrachloroethylene | ND | 1.5 |
| Toluene | 320 | 1 |
| Chlorobenzene | ND | 5 |
| Ethylbenzene | 2.9 | 5 1 1 |
| Total Xylenes | 21 | 1 |
| 1,3-Dichlorobenzene | ND | 1 |
| 1,4-Dichlorobenzene | ND | 1 |
| 1,2-Dichlorobenzene | ND | 1 |

Job No:

12944

Date

Analyzed: 23-Jun-89 Analysis: EPA 601/602 (8010/8020)

B-6-11-3 Sample:

Matrix: Soil

Samp Amt: Dil Fact: 0.1 gm 1

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 0.05 |
| Bromomethane | ND | 0.05 |
| Vinyl Chloride | ND | 0.03 |
| Chloroethane | ND | 0.05 |
| Methylene Chloride | ND | 0.25 |
| 1,1-Dichloroethylene | 0.06 | 0.03 |
| 1,1-Dichloroethane | 0.09 | 0.02 |
| trans-1,2-Dichloroethylene | ND | 0.02 |
| Trichlorofluoromethane | ND | 0.02 |
| Chloroform | ND | 0.02 |
| 1,2-Dichloroethane | ND | 0.02- |
| 1,1,1-Trichloroethane | 0.53 | 0.02 |
| Carbon Tetrachloride | ND | 0.02 |
| Bromodichloromethane | ND | 0.02 |
| 1,1,2,2-Tetrachloroethane | ND | 0.02 |
| 1,2-Dichloropropane | ND | 0.02 |
| trans-1,3-Dichloropropylene | ND | 0.02 |
| Trichloroethylene | 0.035 | 0.02 |
| Dibromochloromethane | ND | 0.02 |
| 1,1,2-Trichloroethane | ND | 0.02 |
| Benzene | ND | 0.01 |
| cis-1,3-Dichloropropylene | ND | 0.02 |
| 2-Chloroethyl Vinyl Ether | ND | 0.04 |
| Bromoform | ND | 0.03 |
| Tetrachloroethylene | ND | 0.02 |
| Toluene | 0.31 | 0.01 |
| Chlorobenzene | ND | 0.04 |
| Ethylbenzene | ND | 0.01 |
| Total Xylenes | 0.03 | 0.01 |
| 1,3-Dichlorobenzene | ND | 0.01 |
| 1,4-Dichlorobenzene | ND | 0.01 |
| 1,2-Dichlorobenzene | ND | 0.01 |

Client: WOODWARD-CLYDE CONSULTANTS Sample: B-6-13-3

Job No: 12944

Date

Matrix: Soil Analyzed: 23-Jun-89 Samp Amt:

Analysis: EPA 601/602 (8010/8020) Dil Fact: 1000

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 5 |
| Bromomethane | ND | 5 |
| Vinyl Chloride | ND | 3 |
| Chloroethane | ND | 5 |
| Methylene Chloride | ND | 25 |
| 1,1-Dichloroethylene | ND | 3 |
| 1,1-Dichloroethane | ND | 2 |
| trans-1,2-Dichloroethylene | ND | 1.5 |
| Trichlorofluoromethane | ND | 2 |
| Chloroform | ND · | 1.5 |
| 1,2-Dichloroethane | ND | 2 |
| 1,1,1-Trichloroethane | 7.7 | 1.5 |
| Carbon Tetrachloride | ND | 1.5 |
| Bromodichloromethane | ИD | 1.5 |
| 1,1,2,2-Tetrachloroethane | ND | 1.5 |
| 1,2-Dichloropropane | ND | 1.5 |
| trans-1,3-Dichloropropylene | ND | 1.5 |
| Trichloroethylene | ND | 1.5 |
| Dibromochloromethane | ND | 1.5 |
| 1,1,2-Trichloroethane | ND | 1.5 |
| Benzene | ND | 1 |
| cis-1,3-Dichloropropylene | ND | 1.5 |
| 2-Chloroethyl Vinyl Ether | ND | 4 |
| Bromoform | ND | 2.5 |
| Tetrachloroethylene | ND | 1.5 |
| Toluene | 9.9 | 1 |
| Chlorobenzene | ND | 4 |
| Ethylbenzene | ND | 1 |
| Total Xylenes | 2.9 | 1 |
| 1,3-Dichlorobenzene | ND | 1 |
| 1,4-Dichlorobenzene | ND | 1 |
| 1,2-Dichlorobenzene | ND | 1 |
| | | |

Client: WOODWARD-CLYDE CONSULTANTS Sample: B-7-7-3

Job No: 12944

Date

Analyzed: 25-Jun-89 Samp Amt: 1 gm

Analysis: EPA 601/602 (8010/8020) Dil Fact: 40

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 0.2 |
| Bromomethane | ND | 0.2 |
| Vinyl Chloride | ND | 0.2 |
| Chloroethane | ND | 0.2 |
| Methylene Chloride | ND | 1 |
| 1,1-Dichloroethylene | ND | 0.12 |
| 1,1-Dichloroethane | ND | 0.08 |
| trans-1,2-Dichloroethylene | ND | 0.06 |
| Trichlorofluoromethane | ND | 0.08 |
| Chloroform | ND | 0.06 |
| 1,2-Dichloroethane | ND | 0.08 |
| 1,1,1-Trichloroethane | 0.15 | 0.06 |
| Carbon Tetrachloride | ND | 0.06 |
| Bromodichloromethane | ND | 0.06 |
| 1,1,2,2-Tetrachloroethane | ND | 0.06 |
| 1,2-Dichloropropane | ND | 0.06 |
| trans-1,3-Dichloropropylene | ND | 0.06 |
| Trichloroethylene | 0.09 | 0.06 |
| Dibromochloromethane | ND | 0.06 |
| 1,1,2-Trichloroethane | ND | 0.06 |
| Benzene | ND | 0.04 |
| cis-1,3-Dichloropropylene | ND | 0.06 |
| 2-Chloroethyl Vinyl Ether | ND | 0.2 |
| Bromoform | ND | 0.1 |
| Tetrachloroethylene | ND | 0.06 |
| Toluene | 1.7 | 0.04 |
| Chlorobenzene | ND | 0.33 |
| Ethylbenzene | ND | 0.04 |
| Total Xylenes | 0.09 | 0.04 |
| 1,3-Dichlorobenzene | ND | 0.08 |
| 1,4-Dichlorobenzene | ND | 0.08 |
| 1,2-Dichlorobenzene | ND | 0.08 |

ND-Not Detected. The limit of detection is reported above.

Soil

Matrix:

Job No:

12944

Date 1294

Analyzed: 25-June-89

Analysis: EPA 601/602 (8010/8020)

Sample: B-7-8-3

Matrix: Soil

Samp Amt: 1 gm

Dil Fact: 1000

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 5 |
| Bromomethane | ND | 5 |
| Vinyl Chloride | ND | 3 |
| Chloroethane | ND | 5 |
| Methylene Chloride | ND | 25 |
| 1,1-Dichloroethylene | ND | 3 |
| 1,1-Dichloroethane | ND | 2 |
| trans-1,2-Dichloroethylene | ND | 1.5 |
| Trichlorofluoromethane | ND | 2 |
| Chloroform | ND | 1.5 |
| 1,2-Dichloroethane | ND | 2 |
| 1,1,1-Trichloroethane | ND | 1.5 |
| Carbon Tetrachloride | ND | 1.5 |
| Bromodichloromethane | ND | 1.5 |
| 1,1,2,2-Tetrachloroethane | ND | 1.5 |
| 1,2-Dichloropropane | ND | 1.5 |
| trans-1,3-Dichloropropylene | ND | 1.5 |
| Trichloroethylene | ND | 1.5 |
| Dibromochloromethane | ND | 1.5 |
| 1,1,2-Trichloroethane | ND | 1.5 |
| Benzene | ND | 1 |
| cis-1,3-Dichloropropylene | ND | 1.5 |
| 2-Chloroethyl Vinyl Ether | ND | 4 |
| Bromoform | ND | 2.5 |
| Tetrachloroethylene | ND | 1.5 |
| Toluene | ND | 1 |
| Chlorobenzene | ND | 5 |
| Ethylbenzene | ND | 1 |
| Total Xylenes | 1 | |
| 1,3-Dichlorobenzene | ND | 1 |
| 1,4-Dichlorobenzene | ND | 1 |
| 1,2-Dichlorobenzene | ND | 1 |
| | | |

Client: WOODWARD-CLYDE CONSULTANTS

Job No: 12944

Date

Analyzed: 25-Jun-89 Analysis: EPA 601/602 (8010/8020)

Sample: B-7-9-3

Matrix: Soil

Samp Amt: Dil Fact: 1 gm 1000

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 5 |
| Bromomethane | ND. | 5 |
| Vinyl Chloride | ND | 3 |
| Chloroethane | ND | 5 |
| Methylene Chloride | ND | 25 |
| 1,1-Dichloroethylene | ND | 3 |
| 1,1-Dichloroethane | ND | 2 |
| trans-1,2-Dichloroethylene | ND | 1.5 |
| Trichlorofluoromethane | ND | 2 |
| Chloroform | ND | 1.5 |
| 1,2-Dichloroethane | ND | 2 · · |
| 1,1,1-Trichloroethane | 10 | 1.5 |
| Carbon Tetrachloride | ND | 1.5 |
| Bromodichloromethane | ND | 1.5 |
| 1,1,2,2-Tetrachloroethane | ND | 1.5 |
| 1,2-Dichloropropane | ND | 1.5 |
| trans-1,3-Dichloropropylene | ND | 1.5 |
| Trichloroethylene | ND | 1.5 |
| Dibromochloromethane | ND | 1.5 |
| 1,1,2-Trichloroethane | ND | 1.5 |
| Benzene | ND | 1 |
| cis-1,3-Dichloropropylene | ND | 1.5 |
| 2-Chloroethyl Vinyl Ether | ND | 4 |
| Bromoform | ND | 2.5 |
| Tetrachloroethylene | ND | 1.5 |
| Toluene | 40 | 1 |
| Chlorobenzene | ND | 1.1 |
| Ethylbenzene | ND | 1 |
| Total Xylenes | 1 | 1 |
| 1,3-Dichlorobenzene | ND | 1 |
| 1,4-Dichlorobenzene | ND | 1 |
| 1,2-Dichlorobenzene | ND | 1 |

Client: WOODWARD-CLYDE CONSULTANTS

Job No: 12944

Date

Matrix: Soil Analyzed: 25-Jun-89 Samp Amt:

Analysis: EPA 601/602 (8010/8020) Dil Fact: 1000

Sample: B-7-9-4

| Compound | Concentration mg/Kg | Detection Limits |
|--------------------------------|------------------------|---------------------|
| Chloromethane | ND | |
| Bromomethane | ND | 5 |
| Vinyl Chloride | ND | 3 |
| Chloroethane | ND | 5 |
| Methylene Chloride | ND | 25 |
| 1,1-Dichloroethylene | ND | 3 |
| 1,1-Dichloroethane | ND | 2 |
| trans-1,2-Dichloroethylene | ND | 1.5 |
| Trichlorofluoromethane | ND | 2 |
| Chloroform | ND | 1.5 |
| 1,2-Dichloroethane | ND | 2 |
| 1,1,1-Trichloroethane | 12 | 1.5 |
| Carbon Tetrachloride | ND | 1.5 |
| Bromodichloromethane | ND | 1.5 |
| 1,1,2,2-Tetrachloroethane | ND | 1.5 |
| 1,2-Dichloropropane | ND | 1.5 |
| trans-1,3-Dichloropropylene | ND | 1.5 |
| Trichloroethylene | ND | 1.5 |
| Dibromochloromethane | ND | 1.5 |
| 1,1,2-Trichloroethane | ND | 1.5 |
| Benzene | ND | 1 |
| cis-1,3-Dichloropropylene | ND | 1.5 |
| 2-Chloroethyl Vinyl Ether | ND | 4 |
| Bromoform | ND | 2.5 |
| Tetrachloroethylene Toluene | ND | 1.5 |
| | 25 | 1 |
| Chlorobenzene | ND | 8.3 |
| Ethylbenzene | ND | 1 |
| Total Xylenes | ND | 1 |
| 1,3-Dichlorobenzene | ND | 1 |
| 1,4-Dichlorobenzene | ND | 1 |
| 1,2-Dichlorobenzene | ND | 1 |

Client: WOODWARD-CLYDE CONSULTANTS Sample: B-7-11-3 ^

Job No: 12944

Date

Matrix: Analyzed: 25-Jun-89 Samp Amt: Analysis: EPA 601/602 (8010/8020) Dil Fact: 1000

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 5 |
| Bromomethane | ND | 5 |
| Vinyl Chloride | ND. | 3 |
| Chloroethane | ND | 5 |
| Methylene Chloride | ND | 25 |
| 1,1-Dichloroethylene | 57 | 3 |
| 1,1-Dichloroethane | ND | 2 |
| trans-1,2-Dichloroethylene | ND | 1.5 |
| Trichlorofluoromethane | ND | 2 |
| Chloroform | ND | 1.5 |
| 1,2-Dichloroethane | ND | 2 |
| 1,1,1-Trichloroethane | 880 | 1.5 |
| Carbon Tetrachloride | ND | 1.5 |
| Bromodichloromethane | ND | 1.5 |
| 1,1,2,2-Tetrachloroethane | ND | 1.5 |
| 1,2-Dichloropropane | ND | 1.5 |
| trans-1,3-Dichloropropylene | ND | 1.5 |
| Trichloroethylene | ND | 1.5 |
| Dibromochloromethane | ND | 1.5 |
| 1,1,2-Trichloroethane | 4 | 1.5 |
| Benzene | ND | 1 |
| cis-1,3-Dichloropropylene | ND | 1.5 |
| 2-Chloroethyl Vinyl Ether | ND | 4 |
| Bromoform | ND | 2.5 |
| Tetrachloroethylene | ND | 1.5 |
| Toluene | 41 | 1 |
| Chlorobenzene | ND | 8.3 |
| Ethylbenzene | ND | 1 |
| Total Xylenes | 1.7 | 1 |
| 1,3-Dichlorobenzene | ND | 1 |
| 1,4-Dichlorobenzene | ND | ī |
| 1,2-Dichlorobenzene | ND | ī |

ND-Not Detected. The limit of detection is reported above.

Soil

Client: WOODWARD CLYDE CONSULTANTS

Job No:

12944

Date

Analyzed: 26-JUNE-89 Analysis: EPA 601/602 (8010/8020)

Sample: B-7-13-3

Matrix: Soil

Samp Amt: Dil Fact: 1 gm 50

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 250 |
| Bromomethane | ND | 250 |
| Vinyl Chloride | ND | 150 |
| Chloroethane | ND | 250 |
| Methylene Chloride | 20000 | 1250 |
| 1,1-Dichloroethylene | 600 | 150 |
| 1,1-Dichloroethane | ND | 100 |
| trans-1,2-Dichloroethylene | ND | 75 |
| Trichlorofluoromethane | ND | 100 |
| Chloroform | ND | 75 |
| 1,2-Dichloroethane | ND | 100- |
| 1,1,1-Trichloroethane | 59000 | 75 |
| Carbon Tetrachloride | ND | 75 |
| Bromodichloromethane | ND | 75 |
| 1,1,2,2-Tetrachloroethane | ND | 75 |
| 1,2-Dichloropropane | ND | 75 |
| trans-1,3-Dichloropropylene | ND | 75 |
| Trichloroethylene | ND | 75 |
| Dibromochloromethane | ND | 75 |
| 1,1,2-Trichloroethane | ND | 75 |
| Benzene | ND | 50 |
| cis-1,3-Dichloropropylene | ND | 75 |
| 2-Chloroethyl Vinyl Ether | ND | 200 |
| Bromoform | ND | 125 |
| Tetrachloroethylene | 140 | 75 |
| Toluene | 450 | 50 |
| Chlorobenzene | ND | 300 |
| Ethylbenzene | ND | 50 |
| Total Xylenes | ND | 50 |
| 1,3-Dichlorobenzene | ND | 100 |
| 1,4-Dichlorobenzene | ND | 100 |
| 1,2-Dichlorobenzene | ND | 100 |



SHIPMENT NO .:

PAGE 2 OF 3

DATE 6 / 13/89

CHAIN OF CUSTODY RECORD

PROJECT NAME: DOUGLAS ALCRAFT COMPLY

| | | CT NO.: | Sample | T | Ty | pe of | Prese | vation | Analys | is Required |
|--|--|--|--|--|------------------|--|-------------|--------|----------------|-------------|
| Sample Number | Location | Material | Method | Type of Containe | Tem | | Cher | nical | 2376.73 | ricquired |
| | 0.16 | SAL | MOD. | BRASS TUBE | ICE | | AA. | NE | Course | CT ALISTON |
| -6-11-4 | 18-6 | 740 | OUF | | | | | | ľ | ENDER |
| 3-6-12-5 | | | (Little | | ++ | | - 1 | | | 35 68 |
| 3-6-12-4 | | | | | - | | | | V 11/2 | SO DW |
| 3-6-13-3 | | | | | -++ | | | | + | |
| 3-6-12-4 | | | | | \rightarrow | | | | | |
| 0-6-14-3 | | | | | | | | | | |
| B-6-14-4 | 1 | | | | | | | | | |
| B-0-14-1 | 8-7 | 1-1- | | | | | | | | |
| 5-1-1-3 | 18-1 | + | + | | | | | | | |
| B-1-1-4 | 7 | | + | | | | | | | |
| <u>8-7-2-3</u> | ++- | + | + | | - + 1 | | 一十 | | | |
| B-7-2-4 | | | | | | | -+ | | + - | |
| B-7-5-3 | | | | | | | | | | |
| 6-7-3-4 | | | | | | | } | | - | |
| B-7-0-3 | | | | | | lacksquare | | | | |
| R-7-4-0 | | | | | | | | | | |
| 0.7-5-2 | | 1 1 | | | | | | | | |
| 775 | ++- | + | +-+- | | | | | | | |
| 8-1-5-4 | <u>-</u> | + | + | | | | | | | |
| 8-7-6-3 | | +-+- | | | | 1 | | | | |
| B-7-6-9 | | 11/ | 1-1/- | | - a | V | <u>, \</u> | / | - | |
| 6-7-7-3 | . V | <u> </u> | | | D. | 1 | an - | | | |
| Total Number o | Sampley S | hipped: < | Sample | er's Signature: | | | | W | | Date |
| Relinquished By: | when . | Blance | | Received By | | 15/ | '// | Han | 1 | 2//3 |
| Signature | 100 | - / la | OC MACO | Signature Printed Name | | 13: | 11 6 | sel | | - (0/7) |
| Printed Name | | tor Gla | esman | Company | · | P | -1 | 7 | | Time |
| Company | dolla | I E | TAKAS | | | | | | | 14,7 |
| Reason | | y | **** | Received By: | √ ~ | OR | | . 1 ^ | | Date |
| Relinquished By | RILL | sell | | Signature | am | X L | ian | wars | | -18/13 |
| Signature Printed Name_ | Bill | Chy | | | | | 10 | | | |
| Company | | 1 | | Printed Nam Company | | _ V VC | 40 | 10 1 2 | 944 | 3,3 |
| Reason | | | | | | ···· | | | | Date |
| Relinquished By | : | | | Received By: | | | | | | / |
| Signature | | | | Signature Printed Nan | | | | | | |
| Printed Name_ | | | | Printed Nan | | | | | | Tim |
| Company | | | | | | | | | | |
| Reason | | | | Received By: | | | | | | Dat |
| Data acusebod Rv | | | | Signature _ | | | | | | / |
| • | | | | Printed Na | ne | | | | | Tim |
| Relinquished By Signature Printed Name | | | | I = | | | | | | 1 |
| • | | | | Company | | | | | | |



CHAIN OF CUSTODY RECORD

| SHIPMENT | NO.: | F |
|----------|------|---|
| 1 | 2 | |

PROJECT NAME: POKKAS AIRCRAFT COMPUNE PROJECT NO.: 8941863 J - PASK J

| Sample Number | Location | Type o | f Sample | Type of Container | | of Preservation | Analysis | Required * |
|---------------------------|---|--|--|------------------------|--|--|--------------|------------|
| | | Material | Method | <u> </u> | Temp | Chemical | | |
| 3-6-1-3 | B-6 | SOLL | MOP. | BRASS TUBE | 100 | NOVE | | T : Alista |
| B-6-1-4 | | | COLIF. | | | | Calle | vitor |
| B-6-2-3 | | T | | | | | | |
| B-6-2-4 | | | 1 1 | | | | | |
| B-6-3-3 | | | | | | | | |
| | | | + + | | 11 | | | |
| B-6-3-+ | | + + - | | | | | | |
| B-6-7-5 | | + | + | | - - - - - - - - - | | | |
| B-6-4-4 | | | | | | | | |
| B-6-5-3 | | + + - | | | ++- | | | |
| B-6-5-4 | | | | | | | · | |
| <u>6-6-6-3</u> | | \bot | | | | | | |
| 13-6-6-4 | | | | | | | | |
| B-6-7-3. | | | | · | | | | |
| B-67-4 | | <u> </u> | | | | | | |
| B-6-8-4 | | | | | | | | |
| B-6-9-3 | | | | | | | | |
| B-6-9-9 | | | | | | | | |
| B-6-10-3 | † † | | | | | | | |
| B-6-10-4 | | | | | 1/ | | | |
| B-6-11-3 | \ | 11/ | 11/ | V | | | | |
| Total Number of | Samples Sh | inned: K | Sample | er's Signature: | WO C | Lam | | |
| Relinquished By: | | 1 4 | | Received B | 6) (| | | Date |
| Signature | TOP I | toon | | Signature | Bill | Hay | | 6/13/ |
| Printed Name | / < pe | ter GI | ausman | Printed Name | 13:4 | Cay | | Time |
| Company, Reason | uk | tellione | age con | S.H - Company | H. | -1-7 | | 4,4 |
| | - deliv | ery & | licas | | | | | |
| Relinquished By: | 4:00 | Ho se | (| Received By: Signature | mi V | Richard | 1 | Date |
| Signature Printed Name | July 3 | Tran | 1 | Printed Name | 7 | Fichal | | 10/1/ |
| Company | B. | 1 | | Company | WCF | 0 | O A A | Time |
| Reason | | | | | VVC | 5 612 | 744 | 3135 |
| Relinguished By: | | | | Received By: | | | | Date |
| Signature | | | | | | | | |
| Printed Name | | | | 1 | | | | Time |
| Company Reason | | | | Company | ,,,,, | | | - |
| Relinquished By: | | | | Received By: | | | | Date |
| Signature | | | | | | | | _ / / |
| Printed Name | | | | Printed Name | | | | Time |
| Company | | | | Company | | | | - |
| Reason | | | | | | | | |



CHAIN OF CUSTODY RECORD

SHIPMENT NO.: 4 PAGE 3 OF 3

DATE 6 113189

PROJECT NAME: DOULLAS ARCAAFT COMPANY PROJECT NO PAINTS TASK

| Sample Number | Location | Type of | Sample | Type of Container | Type | of Preservation | Analysis Required |
|---------------------------|--|--|--------------|------------------------|--|-----------------|-------------------|
| Sample Number | | Material | Method | _ | Temp | Chemical | |
| B-7-7-4 | B-7 | SOIL | MOD. | BRASS TUBS | KE | 10/15 | CONTACT: |
| 8-7-8-3 | <u> </u> | | CAUF. | | | | Alistaile |
| 3-7-8-4 | | | | | | | Callender |
| B-7-9-3 | | | | | | | 17 A 835-68 |
| 13-7-9-4 | | | | | | | |
| B-7-10-3 | | | | | | | |
| B-7-12-4 | | | | , | | | |
| 0-7-11-2 | | | | | | | |
| 0 7-1-4 | | | + | | | | |
| 8-7-1-4 | | | + + - | | | | |
| 13-7-12-3 | | | | | ++- | | |
| 0-7-12-4 | 1 | | + | | +-+ | | |
| 15-1-15-3 | 1-1 | ├ ─├ | | | | | |
| 6-7-13-4 | | | <u> </u> | | | | |
| B-7-14-3 | 14_ | | | | 11/- | V | |
| B-7-14-2 | T W | | 1 | V | V | T T | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | <u> </u> | | | | | | |
| | | <u> </u> | 10 | S S | 5 210 | <u> </u> | |
| Total Number of | Samples Sh | ipped: 5 | Sample | r's Signature: | 770 | | Date |
| Relinquished By: | 100 9 | Hrem | | Received By: Signature | 15°20 | Han | ///2/ |
| Signature Printed Name | S. C. | ta (10 | RTMAN | Printed Name_ | 13:1 | 1 CAL | 9/13/ |
| Company | 74 | MCE | | Company | 14 | 1-1 | Time |
| Reason_ | deliva | 1 1 | NCAS | | | , | 7.4 |
| Relinquished By: | 120.3 | a | | Received By: A | . 0 | X 1 1 1 | Date |
| Signature | BILLA | Jus | | Signature | my | ichalas | 6/13 |
| Printed Name | 13111 | myll- | | Printed Name_ | | | Time |
| Company | A | -/ | | Company | WCK | b 12 | 944 57 |
| Reason | | | | | | | |
| Relinquished By: | | | | Received By: | | | Date |
| Signature | | | | | | | |
| Printed Name | | | | | | | 1 11008 |
| Company | | | | Company | | | |
| Reason | | | | Parainad Sur | | | Date |
| Relinquished By: | | | | Received By: | | | • |
| Signature Printed Name | | | | | | | |
| Company | | | | | | | |
| P | | | | | | | Į |

* Note - This does not constitute authorization to proceed with analysis

RECEIVED

JUL 0 8 1005

WCC-SANT

WEST COAST

ANALYTICAL

June 30, 1989

WOODWARD-CLYDE CONSULTANTS 203 N. Golden Circle Drive Santa Ana, CA 92705

Attn:

Dr. Alistaire Callender

JOB NO.

12962

Α

RARDEDOAD CREMISTS

LABORATORY REPORT

Samples Received: Fifty-six (56) soils

Date Received: 6-15-89

Date Released for Analysis: 6-20-89

Purchase Order No: Proj#: 8941863J/Task 1-Douglas Aircraft

The samples were analyzed as follows:

Samples Analyzed

Analysis

Results

Eight (8) soils

Halogenated and Aromatic

Volatile Organics by EPA 8010/8020

Data Sheets

Page 1 of 1

Shelley Stuart

Senior Chemist

D.J. Northington, Ph.D.

Technical Director

Client: WOODWARD CLYDE CONSULTANTS Sample: B-8-10-3

Job No: 12962

Date Matrix: Soil

Analyzed: 28-JUNE-89 Samp Amt: 0.1 gm Analysis: EPA 601/602 (8010/8020) Dil Fact: 1

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND . | 0.05 |
| Bromomethane | ND | 0.05 |
| Vinyl Chloride | ND | 0.03 |
| Chloroethane | ND | 0.05 |
| Methylene Chloride | ND | 0.25 |
| 1,1-Dichloroethylene | ND | 0.03 |
| 1,1-Dichloroethane | ND | 0.02 |
| trans-1,2-Dichloroethylene | ND | 0.02 |
| Trichlorofluoromethane | ND | 0.02 |
| Chloroform | ND | 0.02 |
| 1,2-Dichloroethane | ND | 0.02 |
| 1,1,1-Trichloroethane | ND | 0.02 |
| Carbon Tetrachloride | ND | 0.02 |
| Bromodichloromethane | ND | 0.02 |
| 1,1,2,2-Tetrachloroethane | ND | 0.02 |
| 1,2-Dichloropropane | ND | 0.02 |
| trans-1,3-Dichloropropylene | ND | 0.02 |
| Trichloroethylene | ND | 0.02 |
| Dibromochloromethane | ND | 0.02 |
| 1,1,2-Trichloroethane | ND | 0.02 |
| Benzene | ND | 0.01 |
| cis-1,3-Dichloropropylene | ND | 0.02 |
| 2-Chloroethyl Vinyl Ether | ND | 0.04 |
| Bromoform | ND | 0.03 |
| Tetrachloroethylene | ND | 0.02 |
| Toluene | 0.27 | 0.01 |
| Chlorobenzene | ND | 0.01 |
| Ethylbenzene | ND | 0.01 |
| Total Xylenes | ND | 0.01 |
| 1,3-Dichlorobenzene | ND | 0.01 |
| 1,4-Dichlorobenzene | ND | 0.01 |
| 1,2-Dichlorobenzene | ND | 0.01 |

Client: WOODWARD CLYDE CONSULTANTS Sample: B-8-11-3

Job No: 12962

Date Matrix: Soil

Analyzed: 28-JUNE-89 Samp Amt: 0.1 gm Analysis: EPA 601/602 (8010/8020) Dil Fact: 1

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 0.05 |
| Bromomethane | ND | 0.05 |
| Vinyl Chloride | ND | 0.03 |
| Chloroethane | ND | 0.05 |
| Methylene Chloride | ND | 0.25 |
| 1,1-Dichloroethylene | ND | 0.03 |
| 1,1-Dichloroethane | ND | 0.02 |
| trans-1,2-Dichloroethylene | ND | 0.02 |
| Trichlorofluoromethane | ND | 0.02 |
| Chloroform | ND | 0.02 |
| 1,2-Dichloroethane | ND | 0.02 |
| 1,1,1-Trichloroethane | ND | 0.02 |
| Carbon Tetrachloride | ND | 0.02 |
| Bromodichloromethane | ND | 0.02 |
| 1,1,2,2-Tetrachloroethane | ND | 0.02 |
| 1,2-Dichloropropane | ND | 0.02 |
| trans-1,3-Dichloropropylene | ND | 0.02 |
| Trichloroethylene | ND | 0.02 |
| Dibromochloromethane | ND | 0.02 |
| 1,1,2-Trichloroethane | ND | 0.02 |
| Benzene | ND | 0.01 |
| cis-1,3-Dichloropropylene | ND | 0.02 |
| 2-Chloroethyl Vinyl Ether | ND | 0.04 |
| Bromoform | ND | 0.03 |
| Tetrachloroethylene | ND | 0.02 |
| Toluene | 0.04 | 0.01 |
| Chlorobenzene | ND | 0.01 |
| Ethylbenzene | ND | 0.01 |
| Total Xylenes | ND | 0.01 |
| 1,3-Dichlorobenzene | ND | 0.01 |
| 1,4-Dichlorobenzene | ND | 0.01 |
| 1,2-Dichlorobenzene | ND | 0.01 |

Client: WOODWARD-CLYDE CONSULTANTS

Job No:

12962

Date

Analyzed: 28-Jun-89

Analysis: EPA 601/602 (8010/8020)

Sample: B-8-12-3

Matrix: Soil

Samp Amt:

0.1 gm Dil Fact: 1

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 0.05 |
| Bromomethane | ND | 0.05 |
| Vinyl Chloride | ND | 0.03 |
| Chloroethane | ND | 0.05 |
| Methylene Chloride | ND | 0.25 |
| 1,1-Dichloroethylene | ND | 0.03 |
| 1,1-Dichloroethane | ND | 0.02 |
| trans-1,2-Dichloroethylene | ND | 0.02 |
| Trichlorofluoromethane | ND | 0.02 |
| Chloroform | ND | 0.02 |
| 1,2-Dichloroethane | ND | 0.02 |
| 1,1,1-Trichloroethane | 0.12 | 0.02 |
| Carbon Tetrachloride | ND | 0.02 |
| Bromodichloromethane | ND | 0.02 |
| 1,1,2,2-Tetrachloroethane | ND | 0.02 |
| 1,2-Dichloropropane | ND | 0.02 |
| trans-1,3-Dichloropropylene | ND | 0.02 |
| Trichloroethylene | ND | 0.02 |
| Dibromochloromethane | ИD | 0.02 |
| 1,1,2-Trichloroethane | ND | 0.02 |
| Benzene | ND | 0.01 |
| cis-1,3-Dichloropropylene | ND | 0.02 |
| 2-Chloroethyl Vinyl Ether | ND | 0.04 |
| Bromoform | ND | 0.03 |
| Tetrachloroethylene | ND | 0.02 |
| Toluene | 0.06 | 0.01 |
| Chlorobenzene | ND | 0.07 |
| Ethylbenzene | ND | 0.01 |
| Total Xylenes | ND | 0.01 |
| 1,3-Dichlorobenzene | ND | 0.01 |
| 1,4-Dichlorobenzene | ND | 0.01 |
| 1,2-Dichlorobenzene | ND | 0.01 |

Client: WOODWARD-CLYDE CONSULTANTS

Job No: 12962

Date Matrix: Soil

Analyzed: 28-Jun-89 Analysis: EPA 601/602 (8010/8020) Samp Amt: 0.1 gm Dil Fact: 1

Sample: B-8-13-3

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|---------------------|---------------------|
| Chloromethane | ND | 0.05 |
| Bromomethane | ND | 0.05 |
| Vinyl Chloride | ND | 0.03 |
| Chloroethane | ND | 0.05 |
| Methylene Chloride | ND | 0.25 |
| 1,1-Dichloroethylene | ND | 0.03 |
| 1,1-Dichloroethane | 0.04 | 0.02 |
| trans-1,2-Dichloroethylene | ND | 0.02 |
| Trichlorofluoromethane | ND | 0.02 |
| Chloroform | ND | 0.02 |
| 1,2-Dichloroethane | ND | 0.02 |
| 1,1,1-Trichloroethane | 0.44 | 0.02 |
| Carbon Tetrachloride | ND | 0.02 |
| Bromodichloromethane | ND | 0.02 |
| 1,1,2,2-Tetrachloroethane | ND | 0.02 |
| 1,2-Dichloropropane | ND | 0.02 |
| trans-1,3-Dichloropropylene | ND | 0.02 |
| Trichloroethylene | ND | 0.02 |
| Dibromochloromethane | ND | 0.02 |
| 1,1,2-Trichloroethane | ND | 0.02 |
| Benzene | ND | 0.01 |
| cis-1,3-Dichloropropylene | ND | 0.02 |
| 2-Chloroethyl Vinyl Ether | ND | 0.04 |
| Bromoform | ND | 0.03 |
| Tetrachloroethylene | ND | 0.02 |
| Toluene | 1.0 | 0.01 |
| Chlorobenzene | ND | 0.07 |
| Ethylbenzene | ND | 0.01 |
| Total Xylenes | ND | 0.01 |
| 1,3-Dichlorobenzene | ND | 0.01 |
| 1,4-Dichlorobenzene | ND | 0.01 |
| 1,2-Dichlorobenzene | ND | 0.01 |

Client: WOODWARD CLYDE CONSULTANTS

Job No:

12962

Date

Analyzed: 28-JUNE-89

Analysis: EPA 601/602 (8010/8020)

Sample: B-8-14-3

Matrix: Soil

Samp Amt: Dil Fact: 0.1 gm 1

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 0.05 |
| Bromomethane | ND | 0.05 |
| Vinyl Chloride | ND | 0.03 |
| Chloroethane | ИD | 0.05 |
| Methylene Chloride | ND | 0.25 |
| 1,1-Dichloroethylene | ИD | 0.03 |
| 1,1-Dichloroethane | ND | 0.02 |
| trans-1,2-Dichloroethylene | ND | 0.02 |
| Trichlorofluoromethane | ИD | 0.02 |
| Chloroform | ND | 0.02 |
| 1,2-Dichloroethane | ND | 0.02 |
| 1,1,1-Trichloroethane | 0.05 | 0.02 |
| Carbon Tetrachloride | ND | 0.02 |
| Bromodichloromethane | ND | 0.02 |
| 1,1,2,2-Tetrachloroethane | ND | 0.02 |
| 1,2-Dichloropropane | ND | 0.02 |
| trans-1,3-Dichloropropylene | ND | 0.02 |
| Trichloroethylene | ND | 0.02 |
| Dibromochloromethane | ND | 0.02 |
| 1,1,2-Trichloroethane | ND | 0.02 |
| Benzene | ND | 0.01 |
| cis-1,3-Dichloropropylene | ND | 0.02 |
| 2-Chloroethyl Vinyl Ether | ND | 0.04 |
| Bromoform | ND | 0.03 |
| Tetrachloroethylene | ND | 0.02 |
| Toluene | 25 | 0.01 |
| Chlorobenzene | ND | 0.01 |
| Ethylbenzene | ND | 0.01 |
| Total Xylenes | ND | 0.01 |
| 1,3-Dichlorobenzene | ND | 0.01 |
| 1,4-Dichlorobenzene | ND | 0.01 |
| 1,2-Dichlorobenzene | ND | 0.01 |

Client: WOODWARD-CLYDE CONSULTANTS Sample: B-9-9-3

Job No: 12962

Date Matrix: Soil

Analyzed: 28-Jun-89 Samp Amt: 0.1 gm Analysis: EPA 601/602 (8010/8020) Dil Fact: 1

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 0.05 |
| Bromomethane | ND | 0.05 |
| Vinyl Chloride | ND | 0.03 |
| Chloroethane | ND | 0.05 |
| Methylene Chloride | ND | 0.25 |
| 1,1-Dichloroethylene | ND | 0.03 |
| 1,1-Dichloroethane | 0.03 | 0.02 |
| trans-1,2-Dichloroethylene | ND | 0.02 |
| Trichlorofluoromethane | ND | 0.02 |
| Chloroform | ND | 0.02 |
| 1,2-Dichloroethane | ND | 0.02 |
| 1,1,1-Trichloroethane | 0.02 | 0.02 |
| Carbon Tetrachloride | ND | 0.02 |
| Bromodichloromethane | ND | 0.02 |
| 1,1,2,2-Tetrachloroethane | ND | 0.02 |
| 1,2-Dichloropropane | ND | 0.02 |
| trans-1,3-Dichloropropylene | ND | 0.02 |
| Trichloroethylene | 0.08 | 0.02 |
| Dibromochloromethane | ND | 0.02 |
| 1,1,2-Trichloroethane | ND | 0.02 |
| Benzene | ND | 0.01 |
| cis-1,3-Dichloropropylene | ND | 0.02 |
| 2-Chloroethyl Vinyl Ether | ND | 0.04 |
| Bromoform | ND | 0.03 |
| Tetrachloroethylene | ND | 0.02 |
| Toluene | 0.1 | 0.01 |
| Chlorobenzene | ND | 0.07 |
| Ethylbenzene | ND | 0.01 |
| Total Xylenes | ND | 0.01 |
| 1,3-Dichlorobenzene | ND | 0.01 |
| 1,4-Dichlorobenzene | ND | 0.01 |
| 1,2-Dichlorobenzene | ND | 0.01 |

WOODWARD CLYDE CONSULTANTS Client:

Job No: Date

12962

Analyzed: 28-JUNE-89

Analysis: EPA 601/602 (8010/8020)

Sample: B-9-11-3

Matrix: Soil

Samp Amt:

0.1 gm Dil Fact:

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 0.05 |
| Bromomethane | ND | 0.05 |
| Vinyl Chloride | ND | 0.03 |
| Chloroethane | ND | 0.05 |
| Methylene Chloride | ND | 0.25 |
| 1,1-Dichloroethylene | ND | 0.03 |
| 1,1-Dichloroethane | ND | 0.02 |
| trans-1,2-Dichloroethylene | ND | 0.02 |
| Trichlorofluoromethane | ND | 0.02 |
| Chloroform | ND | 0.02 |
| 1,2-Dichloroethane | ND | 0.02 |
| 1,1,1-Trichloroethane | ND | 0.02 |
| Carbon Tetrachloride | ND | 0.02 |
| Bromodichloromethane | ND | 0.02 |
| 1,1,2,2-Tetrachloroethane | ND | 0.02 |
| 1,2-Dichloropropane | ND | 0.02 |
| trans-1,3-Dichloropropylene | ND | 0.02 |
| Trichloroethylene | 0.02 | 0.02 |
| Dibromochloromethane | ND | 0.02 |
| 1,1,2-Trichloroethane | ND | 0.02 |
| Benzene | ND | 0.01 |
| cis-1,3-Dichloropropylene | ND | 0.02 |
| 2-Chloroethyl Vinyl Ether | ND | 0.04 |
| Bromoform | ND | 0.03 |
| Tetrachloroethylene | ND | 0.02 |
| Toluene | 0.11 | 0.01 |
| Chlorobenzene | ND | 0.01 |
| Ethylbenzene | ND | 0.01 |
| Total Xylenes | ND | 0.01 |
| 1,3-Dichlorobenzene | ND | 0.01 |
| 1,4-Dichlorobenzene | ND | 0.01 |
| 1,2-Dichlorobenzene | ND | 0.01 |

Client: WOODWARD-CLYDE CONSULTANTS Sample: B-9-12-3

Job No: 12962

Date Matrix: Soil

Analyzed: 28-Jun-89 Samp Amt: 0.1 gm Analysis: EPA 601/602 (8010/8020) Dil Fact: 1

| Compound | Concentration mg/Kg | Detection Limits |
|-----------------------------|------------------------|---------------------|
| Chloromethane | ND | 0.05 |
| Bromomethane | ND | 0.05 |
| Vinyl Chloride | ND | 0.03 |
| Chloroethane | ND | 0.05 |
| Methylene Chloride | ND | 0.25 |
| 1,1-Dichloroethylene | ND | 0.03 |
| 1,1-Dichloroethane | ND | 0.02 |
| trans-1,2-Dichloroethylene | ND | 0.02 |
| Trichlorofluoromethane | ИD | 0.02- |
| Chloroform | ND | 0.02 |
| 1,2-Dichloroethane | ND | 0.02 |
| 1,1,1-Trichloroethane | 0.03 | 0.02 |
| Carbon Tetrachloride | ND | 0.02 |
| Bromodichloromethane | ND | 0.02 |
| 1,1,2,2-Tetrachloroethane | ND | 0.02 |
| 1,2-Dichloropropane | ND | 0.02 |
| trans-1,3-Dichloropropylene | ND | 0.02 |
| Trichloroethylene | ND | 0.02 |
| Dibromochloromethane | ND | 0.02 |
| 1,1,2-Trichloroethane | ND | 0.02 |
| Benzene | ND | 0.01 |
| cis-1,3-Dichloropropylene | ND | 0.02 |
| 2-Chloroethyl Vinyl Ether | ND | 0.04 |
| Bromoform | ND | 0.03 |
| Tetrachloroethylene | ND | 0.02 |
| Toluene | 0.06 | 0.01 |
| Chlorobenzene | ND | 0.07 |
| Ethylbenzene | ND | 0.01 |
| Total Xylenes | ND | 0.01 |
| 1,3-Dichlorobenzene | ND | 0.01 |
| 1,4-Dichlorobenzene | ND | 0.01 |
| 1,2-Dichlorobenzene | ND | 0.01 |



CHAIN OF CUSTODY RECORD

SHIPMENT NO.: 5 PAGE____OF________ DATE 6 1141 39

| | | PROJEC | T NAME: | Dougl | <u>45 /</u> | AIRCRAF | - 60 | • | DATE. | 6 114 | 4.89 |
|---|---------------------------------|------------|--|--|-------------|----------------------------------|--|--|-------|--------------|-----------------|
| | | | T NO.: | \sim | 863 2 | | | | | | |
| | Sample Number | Location | Type of Material | Sample Method | Type of | Container | Type Temp | of Preserva | | Analysis | Required * |
| - | B-8-1-3 | 3-2 | Soil | 40D. | 3,22 | ISS TUBE | ICE | Nove | | COMPAC | |
| • | B-8-1-4 | | | SUE. | • | | | - | | | taire Calleto |
| 1 | 3-2-3 | | | | | | | - | | (7/19) | 35.686 |
| | B-8-3-3 | _ | | | | | | | | | |
| _ | B-2-3-4 | | | | | | | | | | |
| _ | 3-8-4-3 | | | | | | $\bot \bot$ | <u> </u> | | ļ | |
| - | 3-2-4-4 | | | | | | +- | | | | |
| | 3 2 -5-3 | | | | | | ++- | | | † | |
| - | B-8-6-3 | | | | | | | | | | |
| _ | 8-2-6-4 | | | | | - | | | | | |
| _ | 3-8-7-3 | | | | | <u> </u> | + | - | | | |
| _ | B-8-7-4 B-8-8-3 | - | | | | | ++- | | | | |
| | 3-8-8-4 | | | | | | | | | | |
| | 13-8-9-3 | | | | | | | | | | |
| _ | 3-8-9-4 | | | - | <u> </u> | , | + | | | | |
| _ | 3-8-10-3 | $ \forall$ | \ | 1 | , | ₩ | 14 | + 4 | | | |
| | 3 - 2 - 0 - 4 Total Number of S | iamples Sh | ipped: 50 | Sample | r's Signat | ure: | Pelo | Com | | | |
| | Relinquished By: | 2/0 4 | Blan | | Recei | ved By: 🖊 | Dans. | P Sin | 2 | | Date |
| | Signature Printed Name | T × p | eter Gl | ai Men | | nature | ليري | ést | 247 | | 6/15 87 Time |
| | Company | do line | TO IA | <i>2</i> | Cor | npany | A-1 | L | | | 9:50 |
| | Relinquished By | | 1- | | Recei | ved By: | a-(F | Dil | 12 | | Date |
| | Signature Printed Name | | 3 | <u>'~</u> | Sign | nature_ nted_Name | mx | ucha | 14 | | 10/15/89 |
| | Company | | | | | mpany | | 15 b1 | 296 | 5 2 | Time 12'30 |
| | Reason Relinquished By: | | | | Rece | ived By: | | | | | Date |
| | Signature | | | | Sig | nature | | | | | · <u>/ / </u> |
| | Printed Name Company | | | | | nted Name_ mpany | | | | | Time |
| | Reason | | | | | | | , | | | Date |
| | Relinquished By: Signature | | | | | ived By: nature | | | | | _ / <u>/</u> |
| | Printed Name | | | | | nted Name_ mpany | | | | | Time |
| | Company | | | | | | | | | | |
| | Special Shipment | / Handling | / Storage | Requiremen | its: | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | Note - This do | es not cor | scrittite aut | horization | to procee | d with analy | rsis | | | | |



CHAIN OF CUSTODY RECORD

SHIPMENT NO.: 5 PAGE 2 OF 3

| | | | | _ | | | - 1 | _ | ATE 6/1 | 4,29 |
|---|----------------------------|--|--|--|--|--------------|--|--------------------|----------|----------------|
| | | PROJE | CT NAME: | DOUG | LAS ALA | 2 CAF | 7. CD | · | AIE | 1,31 |
| | | | CT NO.: | VO 1 | <u>-1863 J-</u> | - TOS | KI | ···· | | |
| | Sample Number | Location | Type of | Sample | Type of Co | ntainer | | of Preservation | n Analys | sis Required * |
| | | | Material | Method | | | Temp | Chemical | | |
| 7 | <u>C-311-3</u> | 3-3 | Soir | ,400. | 8200 | ILBE | ICE | NOME | | |
| = | B-8-11-4 | | | COLIF. | | | + | | A1.542 | |
| - | B-8-12-3 | | | 1 | | | | | | Callentios |
| - | B-3-12-4 | | - | | | | | | (714) | 375-686 |
| 7 | 3-8-13-3 | | | | | | | | | |
| - | B-2-13-4 | - | | | | | + | | | |
| 7 | B-8-14-3 | | | | | | | | | |
| 7 | B-8-14-4 | 1 V | | | | | + | | | |
| | B-9-1-3 | 13-9 | | | - | | | | | |
| ٦ | 13-9-1-4 | | | | - | | + | | | |
| | B-9-2-5 | | | | | | + | | | |
| | B-9-2-I | | + | | | | + | | | |
| | 37-3-5 | | +-+- | | | | 1-1- | | | |
| 7 | 8-9-3-4 | | + | | | | 1 | | | |
| ٦ | 8-9-4-3 | + | | | | | + + | | | |
| | 10 = 3 | | + | | | | + | | | |
| | 8-9-5-5 | | | | <u> </u> | } | - | | | |
| | 69-5-T | | | | | | - | | | |
| 7 | B-9-6-3 | 1 | + - ! / | + | ├ | / | + \ | ├ | | |
| | 13-9-6-4 | 1 0 | 1 0 | Comple | s's Signatura: | | O.B. | West . | | |
| | Total Number of | Samples Sh | ipped: 5 | ∠ Sample | r's Signature: Received | | A CONTRACT | | | Date |
| | Relinquished By: Signature | The state of | you | | Signatu | | mf | . Sign | <u> </u> | -6/15/67 |
| | Printed Name | / Fe | ter Gl | SAM | Printed | Name_ | Latry | P. His | 45 | Time |
| | Company | 11 T 14 | WCC | NCAS | Compa | ∩y <i>€</i> | 3-1-1 | • | | 9:50 |
| | 11003011 | dol. My | 76 1 | rens | = | ο Δ | - (| 1 1 | <u> </u> | Date |
| | Relinquished By: Signature | m C | Sin | • | Signatu | re 2 | nite | ichaid | 4 | _ (Q/(15°/89 |
| | Printed Name | letter | P. 15:0 | الح | | Name _ | | | | Time |
| | Company A | - | | | Compa | пу | -WCA | > 11 | 2962 | - 12:30 ar |
| | Reason | | | | | 0 | | · | | Date |
| | Relinquished By: Signature | | | | Received Signatu | • | | | | _ / / |
| | Printed Name | | | | | | | | | Time |
| | Company | | | | Compa | ny | | | | |
| | Reason | | | | | | : | | | Date |
| | Relinquished By: | | | | Received | • | | | | / / / |
| | Signature Printed Name | | | | | | | | | Time |
| | Company | | | | | | | | | - IIme |
| | Reason | | | | L | | | | | 1 |
| | Special Shipment | / Handling | / Storage | Requiremen | its: | | | | | |



CHAIN OF CUSTODY RECORD

SHIPMENT NO.: 5
PAGE 3 OF 3

| | PROJE | CT NAME:_ | 2941 | JAS AIRCLAE 863 J-TAS | K L | <u>. </u> | | |
|---------------------------|--|---|--|--------------------------|-------|--|------------------|------------|
| Sample Number | Location | Type of | | Type of Container | | of Preservation | Analysis | Required * |
| Sample Number | <u> </u> | Material | Method | | Temp | Chemical | | |
| 3-9-7-5 | 13-9 | Sou | MOD | BRASS TUBE | ICE | NOME | CONTAG Alista | |
| 3,9-1-4 | | | CALIF. | | | | | 6205 |
| <u>K-9-3-3</u> | | | | | + | | | 835-483 |
| 13-9-8-4 | | | - | , | + | | (17) | 855 583 |
| <u> 8-9-9-3</u> | | | | | ++- | | | |
| 3-9-9-4 | | - | | | ++- | | | |
| B-9-10-3 | | _ | | | ++- | | | |
| B-9-10-4 | | | | | + + - | | _ | |
| B-9-11-3 | | | | | | | | |
| B-9-11-4 | | | | | ++- | | + | |
| B-9-12-3 | | | | | + | | + | |
| B-9-12-4 | | | | | | | | |
| B-9-13-3 | | | | | | - | | · |
| B-9-13-4 | | | | | | <u> </u> | | |
| R-9-14-3 | | | | | | | | |
| B-07-14-6 | V | TV | V _ | V | V | V | | |
| | | | • | | | | | |
| | | | | | | | | |
| • | | | | | | | | |
| | | | | | 701 | 21 | | |
| Total Number of | Samples St | nipped: 5 | Sample | r's Signature: | ALP) | Bloken- | <u> </u> | |
| Relinquished By: | 1)An | 20- | | Received By: | 6 | 00: | | Date |
| Signature | TOR | The comments | \sim | Signature | inny | 1. sign | | 6/15/8 |
| Printed Name | Per | 7 Glass | M | Printed Name Company | 145 | 7. (2) | | Time |
| Company Reason | do la vi | + U | Kas | Company | | | | 9:50 |
| Relinquished By: | 7 | 0 | | Received By: 1 | - AT | | | Date |
| Signature - | un P. | Sipe | <u> </u> | Signature | my r | ichards | | 12/15/ |
| Printed Name | Lary | P. ALP | 25 | Daimend Morne | 3 | | | Time |
| Company | 7-1-1 | | | Company | WCP. | | | 12.30 |
| Reason | | | | | | | | Date |
| Retinquished By: | | | | Received By: | | | | . / / |
| Signature Printed Name | | | | | | | | Time |
| Company | | | | Company | | | | · ime |
| Reason | | | | | | | | 1 |
| Relinquished By: | | | | Received By: | | | | Date / |
| Signature | | | | _ | | | | <u> </u> |
| Printed Name Company | | | | Company | | | | Time |
| Reason | | | | | | | | 1 |
| Special Shipment | | | Requiremen | nts: | | | | |
| • | | - | | | | | | |

* Note - This does not constitute authorization to proceed with analysis

WEST COAST ANALYTICAL SERVICE, INC.

Α

WOODWARD-CLYDE CONSULTANTS 203 N. Golden Circle Drive Santa Ana, CA 92705

Attn:

Dr. Alistaire Callender

JOB NO.

13191

LABORATORY REPORT

Samples Received: Nine (9) liquids in quadruplicate and one (1)

liquid in duplicate

Date Received: 7-13-89

Date Released for Analysis: 7-17-89

Purchase Order No: Proj#: 8941863J-Task 1/Douglas Aircraft

The samples were analyzed as follows:

Samples Analyzed

Analysis

Results

Fifteen (15) liquids

Volatile Organics

by EPA 624

Data Sheets

Page 1 of 1

Michael Shelton Senior Chemist

B. Michael Hovanec Senior Staff Chemist CLIENT: WOODWARD-CLYDE SAMPLE: D.I.-A

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89 RUN NUMBER: 13191V1
DATE EXTRACTED: 07/24/89 SAMPLE AMOUNT: 5ML
DATE ANALYZED: 07/24/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|------------|-----------------------------|---------------------------------------|-----------|
| | | | |
| | | | |
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | | 1. |
| | | ND | |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND. | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYLETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| | | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | i. |
| 10061-01-5 | • | ND | 1. |
| | TRANS-1,3-DICHLOROPROPENE | | 1. |
| 100-41-4 | ETHYLBENZENE | ND | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 109-99-9 | | ND | 1. |
| | TOLUENE | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | ND | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |
| | | · · · · · · · · · · · · · · · · · · · | <u> </u> |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: D.I.-A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

VOA

CLIENT: WOODWARD-CLYDE SAMPLE: WCC-1S-1A

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89 RUN NUMBER: 13191V10
DATE EXTRACTED: 07/21/89 SAMPLE AMOUNT: 250UL
DATE ANALYZED: 07/21/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| | • | | |
|------------|-----------------------------|---------------|------|
| CAS # | COMPOUND | CONCENTRATION | |
| 67-64-1 | ACETONE | ND | 100. |
| 71-43-2 | BENZENE | ND | 20. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 20. |
| 75-25-2 | BROMOFORM | ND | 20. |
| 74-83-9 | BROMOMETHANE | ND | 100. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 100. |
| 75-15-0 | CARBON DISULFIDE | ND | 20. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 20. |
| 108-90-7 | CHLOROBENZENE | ND | 20. |
| 75-00-3 | CHLOROETHANE | ND | 100. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 200. |
| 67-66-3 | CHLOROFORM | ND | 20. |
| 74-87-3 | CHLOROMETHANE | ND | 100. |
| 108-41-8 | CHLOROTOLUENE | ND | 20. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 20. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 20. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 20. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 20. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 20. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 20. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 900. | 20. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 20. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 20. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 20. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 20. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 20. |
| 100-41-4 | ETHYLBENZENE | ND | 20. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 20. |
| 76-13-1 | FREON-TF | ND | 20. |
| 119-78-6 | 2-HEXANONE | ND | 100. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 100. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 100. |
| 100-42-5 | STYRENE | ND | 20. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 20. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 20. |
| 109-99-9 | TETRAHYDROFURAN | ND | 100. |
| 108-88-3 | TOLUENE | ND | 20. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 67. | 20. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 20. |
| 79-01-6 | TRICHLOROETHYLENE | 2400. | 20. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 20. |
| 108-05-4 | VINYL ACETATE | ND | 100. |
| 75-01-4 | VINYL CHLORIDE | ND | 100. |
| 95-47-6 | TOTAL XYLENES | ND | 20. |
| | ALDERED | ND | 20. |

CLIENT:

WOODWARD-CLYDE

SAMPLE: WCC-1S-1A

WCAS JOB #: 13191

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

VOA

CLIENT: WOODWARD-CLYDE SAMPLE: WCC-1S-1R

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89 RUN NUMBER: 13191V13
DATE EXTRACTED: 07/21/89 SAMPLE AMOUNT: 5ML
DATE ANALYZED: 07/21/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|------------|-----------------------------|---------------|-----------|
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | . ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | ND | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND: | 1. |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-1S-1R

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

VOA

CLIENT: WOODWARD-CLYDE SAMPLE: WCC-2S-1A

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89 RUN NUMBER: 13191V1
DATE EXTRACTED: 07/20/89 SAMPLE AMOUNT: 5ML
DATE ANALYZED: 07/20/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| | | | - (**5) |
|------------|-----------------------------|---------------|------------|
| CAS # | COMPOUND | CONCENTRATION | |
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | ī. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | 5. | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |
| - | | .10 | . • |

CLIENT:

WOODWARD-CLYDE

SAMPLE: WCC-2S-1A

WCAS JOB #: 13191

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

VOA

CLIENT: WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-3S-1A

DATE RECEIVED: 07/13/89 RUN NUMBER: 13191V50
DATE EXTRACTED: 07/25/89 SAMPLE AMOUNT: 10UL
DATE ANALYZED: 07/25/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|------------------|------------------------------|---------------|-----------|
| ========= | | | ======== |
| | | | |
| 67-64-1 | ACETONE | ND | 3000. |
| 71-43-2 | BENZENE | ND | 500. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 500. |
| 75-25-2 | BROMOFORM | ND | 500. |
| 74-83-9 | BROMOMETHANE | ND | 3000. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 3000. |
| 75-15-0 | CARBON DISULFIDE | ND | 500. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 500. |
| 108-90-7 | CHLOROBENZENE | ND | 500. |
| 75-00-3 | CHLOROETHANE | ND | 3000. |
| 110-75-8 | 2-CHLOROETHYLVINYLETHER | ND | 5000. |
| 67-66-3 | CHLOROFORM | ND | 500. |
| 74-87-3 | CHLOROMETHANE | ND | 3000. |
| 108-41-8 | CHLOROTOLUENE | ND | 500. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 500. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 500. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 500. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 500. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 500. |
| 107-06-2 | 1,1-DICHLOROETHANE | ND | 500. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 18000. | 500. |
| 156-59-4 | • | | |
| | CIS-1,2-DICHLOROETHYLENE | ND | 500. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | 660. | 500. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 500. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | מא | 500. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 500. |
| 100-41-4 | ETHYLBENZENE | ND | 500. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 500. |
| 76-13-1 | FREON-TF | ND | 500. |
| 119-78-6 | 2-HEXANONE | ND | 3000. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 3000. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 3000. |
| 100-42-5 | STYRENE | ND | 500. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 500. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 500. |
| 109-99-9 | TETRAHYDROFURAN | ND | 3000. |
| 108-88-3 | TOLUENE | 32000. | 500. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 56000. | 500. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | 550. | 500. |
| 79-01-6 | TRICHLOROETHYLENE | 7700. | 500. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 500. |
| 108-05-4 | VINYL ACETATE | ND ND | 3000. |
| 75-01-4 | VINIL ACCIALE VINYL CHLORIDE | ND | 3000. |
| 95-47-6 | TOTAL XYLENES | ND | 500. |
| 33-4/ - 0 | IOIND VIPEMES | שא | 500. |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-3S-1A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

VOA

CLIENT: WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-4S-1A

DATE RECEIVED: 07/13/89 RUN NUMBER:

DATE EXTRACTED: 07/25/89 SAMPLE AMOUNT: 2ML DATE ANALYZED: 07/25/89 MATRIX:

13191V60

WATER

| VOLATILE ORG | VOLATILE ORGANICS (EPA 624/8240) | | UNITS: UG/L (PPB) | |
|--------------|---------------------------------------|---|-------------------|--|
| CAS # | COMPOUND | CONCENTRATION | DET LIMIT | |
| ========= | | ======================================= | ======== | |
| 67-64-1 | ACETONE | ND | 20. | |
| 71-43-2 | BENZENE | ND | 3. | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 3. | |
| 75-25-2 | BROMOFORM | ND | 3. | |
| 74-83-9 | BROMOMETHANE | ND | 20. | |
| 78-93-3 | | ND | 20. | |
| 75-15-0 | · · · · · · · · · · · · · · · · · · · | ND | 3. | |
| 56-23-5 | | ND | 3. | |
| 108-90-7 | | ND | 3. | |
| 75-00-3 | | ND | 20. | |
| 110-75-8 | | ND | 30. | |
| 67-66-3 | | ND | 3. | |
| 74-87-3 | | ND | 20. | |
| 108-41-8 | CHLOROTOLUENE | ND | 3. | |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 3. | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 3. | |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 3. | |
| 106-46-7 | | ND | 3. | |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 3. | |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 3. | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 170. | 3. | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 10. | 3. | |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 3. | |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 3. | |
| 10061-01-5 | | ND | 3. | |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 3. | |
| 100-41-4 | ETHYLBENZENE | ND | 3. | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 3. | |
| 76-13-1 | FREON-TF | ND | 3. | |
| 119-78-6 | 2-HEXANONE | ND | 20. | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 20. | |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 20. | |
| 100-42-5 | STYRENE | ND | 3. | |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 3. | |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 3. | |
| 109-99-9 | TETRAHYDROFURAN | ND | 20. | |
| 108-88-3 | TOLUENE | ND | 3. | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 11. | 3. | |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 3. | |
| 79-01-6 | TRICHLOROETHYLENE | 270. | 3. | |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 3. | |
| 108-05-4 | VINYL ACETATE | ND | 20. | |
| 75-01-4 | VINYL CHLORIDE | ND | 20. | |
| 95-47-6 | TOTAL XYLENES | ND | 3. | |
| | | | | |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-4S-1A

VOA

UNITS: UG/L (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE SAMPLE: WCC-5S-1A

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89

DATE EXTRACTED: 07/25/89

DATE ANALYZED: 07/25/89

RUN NUMBER: 13191V51

SAMPLE AMOUNT: 5ML
WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | |
|------------|-----------------------------|---------------|-------------|
| ======== | | | ======== |
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYLETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | - ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 3. | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 6. | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | -, | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | 13. | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. . |
| 95-47-6 | TOTAL XYLENES | ND | 1. |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-5S-1A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

VOA

CLIENT: WOODWARD-CLYDE SAMPLE: WCC-5S-1B

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89

DATE EXTRACTED: 07/25/89 DATE ANALYZED: 07/25/89 RUN NUMBER: 13191V52

SAMPLE AMOUNT: 5ML MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|------------|-----------------------------|---------------|-----------|
| **** | *********************** | | |
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYLETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 3. | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 6. | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | î. |
| 79-01-6 | TRICHLOROETHYLENE | 12. | î. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |
| , J 4, 0 | A A ATH A A HIMMING | 110 | - • |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-5S-1B

UNITS: UG/L (PPB)

FDA ~

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

VOA

WCAS JOB #: 13191

SAMPLE: WCC-7S-1A

RUN NUMBER:

DATE RECEIVED: 07/13/89
DATE EXTRACTED: 07/25/89
DATE ANALYZED: 07/25/89

13191V61

SAMPLE AMOUNT: 500UL MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|------------|-----------------------------|---|------------|
| | | ======================================= | ======== |
| 67-64-1 | ACETONE | ND | 5.0 |
| 71-43-2 | BENZENE | ND | 50. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 10. |
| 75-25-2 | BROMOFORM | ND | 10. |
| 74-83-9 | BROMOMETHANE | ND | 10. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 50. |
| 75-15-0 | CARBON DISULFIDE | ND | 50. |
| 56-23-5 | CARBON TETRACHLORIDE | ИD | 10. |
| 108-90-7 | CHLOROBENZENE | ND | 10. 10. |
| 75-00-3 | CHLOROETHANE | ND | |
| 110-75-8 | 2-CHLOROETHYLVINYLETHER | ND | 50. |
| 67-66-3 | CHLOROFORM | ND | 100. |
| 74-87-3 | CHLOROMETHANE | | 10. |
| 108-41-8 | CHLOROTOLUENE | ND | 50. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 10. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 10. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 10. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 10. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 10. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 10. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 10. |
| 156-59-4 | CIS-1, 2-DICHLOROETHYLENE | 850. | 10. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | 26. | 10. |
| 78-87-5 | 1,2-DICHLOROPROPANE | 11. | 10. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 10. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 10. |
| 100-41-4 | ETHYLBENZENE | ND | 10. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 10. |
| 76-13-1 | FREON-TF | ND | 10. |
| 119-78-6 | 2-HEXANONE | ND | 10. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 50. |
| 108-10-1 | | ND | 50. |
| 100-42-5 | 4-METHYL-2-PENTANONE (MIBK) | ND | 50. |
| 79-34-5 | STYRENE | ND | 10. |
| 127-18-4 | 1,1,2,2-TETRACHLOROETHANE | ND | 10. |
| | TETRACHLOROETHYLENE | ND | 10. |
| 109-99-9 | TETRAHYDROFURAN | ND | 50. |
| 108-88-3 | TOLUENE | ND | 10. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 110. | 10. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 10. |
| 79-01-6 | TRICHLOROETHYLENE | 1300. | 10. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 10. |
| 108-05-4 | VINYL ACETATE | ND | 50. |
| 75-01-4 | VINYL CHLORIDE | ND | 50. |
| 95-47-6 | TOTAL XYLENES | ND | 10. |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-7S-1A

UNITS: UG/L (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

1 NONE FOUND

WCAS JOB #: 13191

SAMPLE: WCC-8S-1A

DATE RECEIVED: 07/13/89

DATE EXTRACTED: 07/25/89 DATE ANALYZED: 07/25/89 RUN NUMBER: 13191V58

SAMPLE AMOUNT: 1ML MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240)

| CAS # | COMPOUND | CONCENTRATION | |
|---------------|-----------------------------|---------------|---|
| | | | . * = = = = = = = = = = = = = = = = = = |
| 67-64-1 | ACETONE | ND | 30. |
| 71-43-2 | BENZENE | ND | 5. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 5. |
| 75-25-2 | BROMOFORM | ND | 5. |
| 74-83-9 | BROMOMETHANE | ND | 30. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 30. |
| 75-15-0 | CARBON DISULFIDE | ND | 5. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 5. |
| 108-90-7 | CHLOROBENZENE | ND | 5. |
| 75-00-3 | CHLOROETHANE | ND | 30. |
| 110-75-8 | 2-CHLOROETHYLVINYLETHER | ND | 50. |
| 67-66-3 | CHLOROFORM | ND | 5. |
| 74-87-3 | CHLOROMETHANE | ND | 30. |
| 108-41-8 | CHLOROTOLUENE | ND | 5. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 5. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 5. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 5. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 5. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 5. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 5. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 430. | 5. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 7. | 5. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | 9. | 5. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 5. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 5. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 5. |
| 100-41-4 | ETHYLBENZENE | ND | 5. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 5. |
| 76-13-1 | FREON-TF | ND | 5. |
| 119-78-6 | 2-HEXANONE | ND | 30. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 30. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 30. |
| 100-42-5 | STYRENE | ND | 5. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 5. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 5. |
| 109-99-9 | TETRAHYDROFURAN | ND | 30. |
| 108-88-3 | TOLUENE | ND | 5. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 160. | 5. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 5. |
| 79-01-6 | TRICHLOROETHYLENE | 240. | 5. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 5. |
| 108-05-4 | VINYL ACETATE | ND | 30. |
| 75-01-4 | VINYL CHLORIDE | ND | 30. |
| 95-47-6 | TOTAL XYLENES | ND | 5. |
|) J = 4 / = 0 | TAIND VIDENES | ND | ٠. |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-8S-1A

UNITS: UG/L (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

1 NONE FOUND

WCAS JOB #: 13191

SAMPLE: WCC-8S-1R

DATE RECEIVED: 07/13/89

DATE EXTRACTED: 07/25/89
DATE ANALYZED: 07/25/89

RUN NUMBER: 13191V54 SAMPLE AMOUNT: 5ML

SAMPLE AMOUNT: 5ML MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| C1 C # | COMPOUND | | |
|------------------|---|---------------|------------|
| CAS # | COMPOUND | CONCENTRATION | |
| | :====================================== | | ======== |
| 67 64 1 | ACCOUR | MD | _ |
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | , ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYLETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | <u>1</u> . |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| | METHYLENE CHLORIDE | ND ND | 5. |
| 75-09-2 | | | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71 - 55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | ND | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND. | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |
| | | | |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-8S-1R

UNITS: UG/L (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

FRACTION

1 NONE FOUND

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89 RUN NUMBER: 13193V4
DATE EXTRACTED: 07/21/89 SAMPLE AMOUNT: 5ML
DATE ANALYZED: 07/21/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

SAMPLE: WCC-10S-1A

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|------------|-----------------------------|---------------|-----------|
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | 3. | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 2. | .1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | 86. | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |
| <i>-</i> | | .,,, | |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-10S-1A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89 RUN NUMBER: 13191V5
DATE EXTRACTED: 07/21/89 SAMPLE AMOUNT: 5ML
DATE ANALYZED: 07/21/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

SAMPLE: WCC-10S-1B

| | , | ONTID: OG/ E (FFB) | |
|------------|---|--------------------|---------------|
| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
| 67-64-1 | ACETONE | ND | ======= 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | 3. | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 1. | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ИD | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | 87. | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |
| | | | |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-10S-1B

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME FRACTION CONCENTRATION

1 NONE FOUND

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89 RUN NUMBER: 13191V6
DATE EXTRACTED: 07/21/89 SAMPLE AMOUNT: 5ML
DATE ANALYZED: 07/21/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

SAMPLE: WCC-10S-1R

| | | -/ | |
|------------|-----------------------------|---------------|-----------|
| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | . 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | ND | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-10S-1R

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME FRACTION CONCENTRATION

1 NONE FOUND

WCAS JOB #: 13191

DATE RECEIVED: 07/13/89 RUN NUMBER: 13191V63

DATE EXTRACTED: 07/25/89 SAMPLE AMOUNT: 5ML
DATE ANALYZED: 07/26/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

SAMPLE: WCC-11S-1A

| CAS # | COMPOUND | CONCENTRATION | |
|---------------------------|-----------------------------|---------------|-----|
| | | | |
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYLETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78 - 87 - 5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | • | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | ND | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |
| | | | |

CLIENT:

WOODWARD-CLYDE

WCAS JOB #: 13191

SAMPLE: WCC-11S-1A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

| | Woodw | rard-Clyde | Consulta | ents 🖣 | SHIPN | IENT NO.: |
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| Sample Number Location | | thod Type of | Container | Type o | of Preservation Chemical | Analysis Require |
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| wcc-12-15 V | | | | | | |
| wcc-30-11 wcc-3 | 2 | | | | | |
| ucc-32-13 | | | | | | |
| 16C-3D-18 | | | | | | |
| 12CC-30-15 V | | | | | | |
| 4 - 120-14 hcc-12 | Z | | | | | - |
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| vcc-120-15 V | - | 1 | <u></u> | | <u> </u> | |
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| Company | / Canada Banui | rements: | Peter G | bes,no | n 714 8 | 35 6856 |

September 8, 1989

WOODWARD-CLYDE CONSULTANTS 203 N. Golden Circle Drive Santa Ana, CA 92705

Attn:

Peter Glaesman

JOB NO.

13533



ANALYTICAL CHEMISTS

Α

LABORATORY REPORT

Samples Received: Fifty-five (55) liquids

Date Received: 8-24-89

Purchase Order No: Proj#: 8941863J Task 1/Douglas Aircraft

The samples were analyzed as follows:

Samples Analyzed

Analysis

Results

Thirteen (13) liquids

Volatile Organics

by EPA 624

Data Sheets

Page 1 of 1

Michael Shelton

Senior Chemist

B. Michael Hovanec Senior Staff Chemist CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-1D-2A

DATE RECEIVED: 08/24/89
DATE EXTRACTED: 09/06/89
DATE ANALYZED: 09/06/89

RUN NUMBER: 13533V16

SAMPLE AMOUNT: 5ML MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| | (====================================== | ONIIS. OG/L (PPB) | |
|--------------------------|---|-------------------|-----------|
| CAS # ========= | COMPOUND | CONCENTRATION | DET LIMIT |
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25 -2 | BROMOFORM | ··· | 1. |
| 74-83-9 | BROMOMETHANE | ND | 1. |
| 78 - 93 -3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND ND | 5. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 1. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 5. |
| 67-66-3 | CHLOROFORM | | 10. |
| 74-87-3 | CHLOROMETHANE | ND | 1. |
| 108-41-8 | CHLOROTOLUENE | ND | 5. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87 -5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | | ND | 1. |
| 10061-02-6 | | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | | , ND | 1. |
| 76-13-1 | ETHYLENE DIBROMIDE | ND | 1. |
| 119-78-6 | FREON-TF | ND | 1. |
| 75 - 09 -2 | 2-HEXANONE | ND | 5. |
| 108-10-1 | METHYLENE CHLORIDE | ND | 5. |
| | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 1. | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | 2. | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |
| | | | |

CLIENT: WOODWARD-CLYDE CONSULTANTS

SAMPLE: WCC-1D-2A

WCAS JOB #: 13533

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-1S-2A

DATE RECEIVED: 08/24/89

DATE EXTRACTED: 09/06/89
DATE ANALYZED: 09/06/89

RUN NUMBER: 13533V17 SAMPLE AMOUNT: 150UL MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|------------|-----------------------------|---------------|-----------|
| 67-64-1 | ACETONE | ND | 200. |
| 71-43-2 | BENZENE | ND ND | 30. |
| 75-27-4 | BROMODICHLOROMETHANE | אס | 30. |
| 75-25-2 | BROMOFORM | ND | 30. |
| 74-83-9 | BROMOMETHANE | ND | 200. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 200. |
| 75-15-0 | CARBON DISULFIDE | ND | 30. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 30. |
| 108-90-7 | CHLOROBENZENE | ND | 30. |
| 75-00-3 | CHLOROETHANE | ND | 200. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 300. |
| 67-66-3 | CHLOROFORM | ND | 30. |
| 74-87-3 | CHLOROMETHANE | ND | 200. |
| 108-41-8 | CHLOROTOLUENE | ND | 30. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 30. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 30. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 30. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 30. |
| 75-34-3 | 1,1-DICHLOROETHANE | - ND | 30. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 30. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 1500. | 30. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 41. | 30. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 30. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 30. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 30. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 30. |
| 100-41-4 | ETHYLBENZENE | ND | 30. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 30. |
| 76-13-1 | FREON-TF | ND | 30. |
| 119-78-6 | 2-HEXANONE | ND | 200. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 200. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 200. |
| 100-42-5 | STYRENE | ND | 30. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 30. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 30. |
| 109-99-9 | TETRAHYDROFURAN | ND | 200. |
| 108-88-3 | TOLUENE | ND | 30. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 30. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 30. |
| 79-01-6 | TRICHLOROETHYLENE | 2800. | 30. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 30. |
| 108-05-4 | VINYL ACETATE | ND | 200. |
| 75-01-4 | VINYL CHLORIDE | ND | 200. |
| 95-47-6 | TOTAL XYLENES | ND | 30. |
| · · | | ND | J 0 • |

CLIENT: WOODWARD-CLYDE CONSULTANTS

SAMPLE: WCC-1S-2A

WCAS JOB #: 13533

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-2S-2A

WCAS JOB #: 13533

DATE RECEIVED: 08/24/89

DATE EXTRACTED: 09/06/89

DATE ANALYZED: 09/06/89

RUN NUMBER: 13533V18

SAMPLE AMOUNT: 5ML

MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| (21 024) (240) | | UNITS: UG/L | (PPB) |
|--------------------|-------------------------------------|--|-----------|
| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
| 67-64-1 | ACETONE | ====================================== | |
| 71-43-2 | BENZENE | ND | 5. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 1. |
| 78-93 - 3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 5. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 1. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 5. |
| 67-66-3 | CHLOROFORM | ND | 10. |
| 74-87-3 | CHLOROMETHANE | | 1. |
| 108-41-8 | CHLOROTOLUENE | ND | 5. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 1. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | | ND | 5. |
| 100-42-5 | 4-METHYL-2-PENTANONE (MIBK) STYRENE | ND | 5. |
| 79-34-5 | | ND | 1. |
| 127-18-4 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 109-99-9 | TETRACHLOROETHYLENE | ND | 1. |
| 108-88-3 | TETRAHYDROFURAN | ND | 5. |
| 71-55-6 | TOLUENE | ND | 1. |
| | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00-5 79-01-6 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| | TRICHLOROETHYLENE | 3. | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-2S-2A

UNITS: UG/L (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

1 NONE FOUND

Data Reporting Qualifiers

- Value If the result is a value greater than or equal to the Detection Limit (DL), the value is reported.
- ND Indicates that the compound was analyzed for but not detected. The minimum DL for the sample with the ND is reported based on necessary concentration or dilution actions.
- TR Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified DL but greater than zero.

CLIENT: WOODWARD-CLYDE CONSULTANTS

SAMPLE: WCC-3D-1A

WCAS JOB #: 13290

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-3D-2A

WCAS JOB #: 13533

DATE RECEIVED: 08/24/89 DATE EXTRACTED: 09/06/89 DATE ANALYZED: 09/06/89

RUN NUMBER: 13533V19 SAMPLE AMOUNT: 500UL MATRIX:

VOLATILE ORGANICS (EPA 624/8240)

| • | | | (5) |
|--------------------------|-----------------------------|---------------|-----------|
| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
| 0/-04-1 | ACETONE | | |
| 71-43-2 | BENZENE | ND ND | 50. |
| 75-27-4 | BROMODICHLOROMETHANE | ND ND | 10. |
| 75 - 25 -2 | BROMOFORM | ND | 10. |
| 74-83-9 | BROMOMETHANE | | 10. |
| 78 -93-3 | 2-BUTANONE (MEK) | ND | 50. |
| 75-15-0 | CARBON DISULFIDE | , ND | 50. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 10. |
| 108-90-7 | CHLOROBENZENE | ND | 10. |
| 75-00-3 | CHLOROETHANE | ND | 10. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 50. |
| 67-66-3 | CHLOROFORM | ND | 100. |
| 74-87-3 | | ND | 10. |
| 108-41-8 | | ND | 50. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 10. |
| | 1,2-DICHLOROBENZENE | ND | 10. |
| | 1,3-DICHLOROBENZENE | ND | 10. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 10. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 10. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 10. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 10. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 10. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 10. |
| 78-87 - 5 | 1,2-DICHLOROPROPANE | ND | 10. |
| 10061-01-5 | | ND | 10. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 10. |
| 100-41-4 | TRANS-1,3-DICHLOROPROPENE | ND | 10. |
| 106-93-4 | ETHYLBENZENE | ND | 10. |
| 76-13-1 | ETHYLENE DIBROMIDE | ND | 10. |
| 119-78-6 | FREON-TF | ND | 10. |
| 75-09-2 | 2-HEXANONE | ND | 50. |
| _ | METHYLENE CHLORIDE | ND | 50. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 50. |
| 100-42-5 | STYRENE | ND | 10. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 10. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 10. |
| 109-99-9 | TETRAHYDROFURAN | ND | 50. |
| 108-88-3 | TOLUENE | ND | 10. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 32. | 10. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 10. |
| 79-01-6 | TRICHLOROETHYLENE | ND | 10. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 10. |
| 108-05-4 | VINYL ACETATE | ND | 50. |
| 75-01-4 | VINYL CHLORIDE | ND | 50. |
| 95-47-6 | TOTAL XYLENES | ND | 10. |
| | _ - | ND | 10. |

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-3D-2A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-3S-2A

WCAS JOB #: 13533

DATE RECEIVED: 08/24/89

DATE EXTRACTED: 09/06/89 DATE ANALYZED: 09/06/89

RUN NUMBER: 13533V20

SAMPLE AMOUNT: 5UL MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240)

| | • | CHIIO. OG/ LI (PPD) | |
|---------------------------|---|---------------------|-----------|
| CAS # ========= | COMPOUND | CONCENTRATION | DET LIMIT |
| 67-64-1 | ACETONE | ND | 5000. |
| 71-43-2 | BENZENE | ND | 1000. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1000. |
| 75-25-2 | BROMOFORM | ND | 1000. |
| 74-83-9 | BROMOMETHANE | ND | 5000. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5000. |
| 75-15-0 | CARBON DISULFIDE | , ND | 1000. |
| 56 - 23 - 5 | CARBON TETRACHLORIDE | ND | 1000. |
| 108-90-7 | CHLOROBENZENE | ND | 1000. |
| 75-00-3 | CHLOROETHANE | ND | 5000. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10000. |
| 67-66-3 | CHLOROFORM | ND | 1000. |
| 74-87-3 | CHLOROMETHANE | ND | 5000. |
| 108-41-8 | CHLOROTOLUENE | ND | 1000. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1000. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1000. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1000. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1000. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1000. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1000. |
| 75-35-4 156-59-4 | 1,1-DICHLOROETHYLENE | 56000. | 1000. |
| 156-60-5 | CIS-1,2-DICHLOROETHYLENE | ND | 1000. |
| 78-87-5 | TRANS-1, 2-DICHLOROETHYLENE | ND | 1000. |
| 10061-01-5 | 1,2-DICHLOROPROPANE | ND | 1000. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1000. |
| 100-41-4 | TRANS-1,3-DICHLOROPROPENE | ND | 1000. |
| 106-93-4 | ETHYLBENZENE ETHYLENE DIRROWING | ND | 1000. |
| 76-13-1 | ETHYLENE DIBROMIDE FREON-TF | ND | 1000. |
| 119-78-6 | | ND | 1000. |
| 75-09-2 | 2-HEXANONE METHYLENE CHLORIDE | ND | 5000. |
| 108-10-1 | | ND | 5000. |
| 100-42-5 | 4-METHYL-2-PENTANONE (MIBK) STYRENE | ND | 5000. |
| 79-34-5 | | ND | 1000. |
| 127-18-4 | 1,1,2,2-TETRACHLOROETHANE | ND | 1000. |
| 109-99-9 | TETRACHLOROETHYLENE TETRAHYDROFURAN | ND | 1000. |
| 109-99-9 | TOLUENE | ND | 5000. |
| 71-55-6 | | 56000. | 1000. |
| 79-00-5 | 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE | 78000. | 1000. |
| 79-01-6 | TRICHLOROETHYLENE | ND | 1000. |
| 75-69-4 | TRICHLOROETHILENE | 6000. | 1000. |
| 108-05-4 | VINYL ACETATE | ND | 1000. |
| 75-01-4 | VINIL ACEIATE VINYL CHLORIDE | ND | 5000. |
| 95-47-6 | TOTAL XYLENES | ND | 5000. |
| JJ 31-0 | TOTAL VITENES | ND | 1000. |

CLIENT: WOODWARD-CLYDE CONSULTANTS

SAMPLE: WCC-3S-2A

WCAS JOB #: 13533

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 UNIDENTIFIED COMPOUND

VOA

10000.

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-3S-2R

DATE RECEIVED: 08/24/89

DATE EXTRACTED: 09/06/89 DATE ANALYZED: 09/06/89 RUN NUMBER:

13533V21

SAMPLE AMOUNT: 5ML MATRIX:

WATER

VOLATILE ORGANICS (EPA 624/8240)

| CAS # - | COMPOUND | CONCENTRATION | DET LIMIT |
|-------------------------------------|-----------------------------|---------------|-----------|
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25 -2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | • ND | 1. |
| 56-23 - 5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50 - 1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1, 2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00 -5 79-01 - 6 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| | TRICHLOROETHYLENE | ND | 1. |
| 75-69 - 4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 95-47-6 | VINYL CHLORIDE | ND | 5. |
| 70-4/ -6 | TOTAL XYLENES | ND | 1. |

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-3S-2R

WCAS JOB #: 13533

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-4S-2A

WCAS JOB #: 13533

DATE RECEIVED: 08/24/89 RUN NUMBER: 13533V22
DATE EXTRACTED: 09/06/89 SAMPLE AMOUNT: 1ML
DATE ANALYZED: 09/06/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| | | ON115. 0G/ L | (PPD) |
|--------------------|-----------------------------|---------------|-----------|
| CAS # ========= | COMPOUND | CONCENTRATION | DET LIMIT |
| 67-64-1 | ACETONE | ND | |
| 71-43-2 | BENZENE | ND | 30. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 5. |
| 75-25-2 | BROMOFORM | ND | 5. 5. |
| 74-83-9 | BROMOMETHANE | ND | 30. |
| 78-93-3 | 2-BUTANONE (MEK) | , ND | 30. |
| 75-15-0 | CARBON DISULFIDE | ND | 5. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 5. |
| 108-90-7 | CHLOROBENZENE | ND | 5. |
| 75-00-3 | CHLOROETHANE | ND | 30. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 50. |
| 67-66-3 | CHLOROFORM | ND | 5. |
| 74-87-3 | CHLOROMETHANE | ND | 30. |
| 108-41-8 | CHLOROTOLUENE | ND | 5. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 5. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 5. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 5. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 5. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 5. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 5. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 360. | 5. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 15. | 5. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 5. |
| 78-87 - 5 | 1,2-DICHLOROPROPANE | ND | 5. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 5. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 5. |
| 100-41-4 | ETHYLBENZENE | ND | 5. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 5. |
| 76-13 - 1 | FREON-TF | ND | 5. |
| 119-78-6 | 2-HEXANONE | ND | 30. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 30. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 30. |
| 100-42-5 | STYRENE | ND | 5. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 5. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 5. |
| 109-99-9 | TETRAHYDROFURAN | ND | 30. |
| 108-88-3 | TOLUENE | ND | 5. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 7. | 5. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 5. |
| 79-01-6 | TRICHLOROETHYLENE | 410. | 5. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 5. |
| 108-05-4 | VINYL ACETATE | ND | 30. |
| 75-01-4 | VINYL CHLORIDE | ND | 30. |
| 95-47-6 | TOTAL XYLENES | ND | 5. |

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-4S-2A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME FRACTION CONCENTRATION

1 UNIDENTIFIED COMPOUND

VOA

300.

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-5S-2A

DATE RECEIVED: 08/24/89 DATE EXTRACTED: 09/06/89 DATE ANALYZED: 09/06/89

RUN NUMBER: 13533V29 SAMPLE AMOUNT: 5ML

WATER MATRIX:

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|------------------------|---------------------------------|---------------|-----------|
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | , ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23 - 5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 4. | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | · | ND | 1. |
| 10061-02-6 | · | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55 -6 | 1,1,1-TRICHLOROETHANE | ND | 1. |
| 79-00 - 5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-00-5 79-01-6 | TRICHLOROETHYLENE | 12. | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| | VINIL ACEIAIE VINYL CHLORIDE | ND | 5. |
| 75-01-4 | TOTAL XYLENES | ND | 1. |
| 95 -47-6 | IOIMP VITENES | | |

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-5S-2A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-5S-2R

WCAS JOB #: 13533

DATE RECEIVED: 08/24/89 DATE EXTRACTED: 09/06/89 DATE ANALYZED: 09/06/89 RUN NUMBER: 13533V24 SAMPLE AMOUNT: 5ML MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240)

| | ······································ | 011101 00/1 (110) | |
|------------------|--|-------------------|-----|
| CAS # | COMPOUND | CONCENTRATION | |
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | ī. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93 - 3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ND | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | i. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | ī. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87 - 5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | ī. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | ND | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | i. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-00-5 | TRICHLOROETHYLENE | ND ND | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | |
| 73-4/ -0 | TOTAL VITCHES | מא | 1. |

CLIENT: WOODWARD-CLYDE CONSULTANTS WCAS JOB #: 13533

SAMPLE: WCC-5S-2R

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

Data Reporting Qualifiers

- Value If the result is a value greater than or equal to the Detection Limit (DL), the value is reported.
- ND Indicates that the compound was analyzed for but not detected. The minimum DL for the sample with the ND is reported based on necessary concentration or dilution actions.
- TR Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified DL but greater than zero.

13/11/12

| Woodward-Clyde | Consultants |
|-----------------------|-------------|
|-----------------------|-------------|



CHAIN OF CUSTODY RECORD

PROJECT NAME: Daylas ATTER (0./C6
PROJECT NO.: 8941863 J-TASK

| | | | Type of | Sample | | Type | Type of Preservation Temp Chemical | | Analysis Required * | |
|----------|----------------------------------|--------------|--|--|----------------------------|---------------|------------------------------------|--------|---------------------|--|
| | Sample Number | Location | Material | Method | Type of Container | | | | Required | |
| _ | NCC-15-1A | WC-15 | WOTER | BAILET | 40 m2 JOA | KE | NINE | CUNTRY | T ; | |
| | wcc-15-18 | 1 | 1 | | → | | | I | العرامين الما | |
| | WCC-15-1C | | | | 40×8hss | | | | 335-676 | |
| - }- | UCC-15-1R | 17 | | | 40 me VSA | | | - | | |
| _ | wcc-25-14 | (| | | 1 | | | | | |
| _ | WCC-25-18 | | | | | | | | | |
| 1 | ucc-25-19 | 1 1 | | | 4 oz. 765s | | | | | |
| | Mc-25-12 | 1 | | | 40 & VOA | | | | | |
| + | WCC -35-1A | 1101-20 | | | | | | , | | |
| _} | WCC-35-1B | 1 | | | V | | | | | |
| | wec. 35-10 | | t | | 4 02, 4/455 | | | | | |
| _ | WC-35-JR | | | | 40 LE VUS | | | | | |
| | WCC-45-1A | 1.1.CC - 4- | | | 1 | | | | | |
| | WC-45-1B | 1 ' . | | | 1 | | | | | |
| _ | | | | | 9 02. 9 luss | 1 1 | | | | |
| 7 | WCC-451C | \ <u>\</u> | | | AU LE VOA | 1 | | | | |
| - - | WCC-45-1R | | | | 70 /20 | | | | | |
| brack | WC-55-1A | 1 1 | | | | + 1 | | | | |
| | wcc-55-18 | 1 1 | | | A = = = lece | ++ | | | | |
| | ucc - 55 - 10 | T (17) | 1 | W | 402. 9655 40 2 VOA | + 🗸 | | | | |
| _ | NCC - SS - R Total Number of S | Samples Shi | pood: 70 | Sample | | 04 | Ha | | | |
| - | | O / A | 0// | Compic | Received By: | 1 | 1 1 | | Date | |
| | Relinquished By: Signature | loo] | Rose | | Signature | Klurch | Koulen | | 7113189 | |
| | Printed Name | | T Glass | Ma | Printed Name | Davil | | | Time | |
| | Company | | | WCAS | Company | _ | A-/ | | 9:05 | |
| L | Reason | | | MONS | 0 1 1 0 1 | . C | | | Date | |
| | Relinquished By: |) Bein | e't to | | Received By: Signature | mulk | ichard ! | | 7/13/8 | |
| 1 | Signature | | KI | | Printed Name | AP | FIL KICHAN | 205_ | Time | |
| ١ | Company | A -/ | | | Company | NCAS | lu 1 3 1 | 91 | 17:10 | |
| L | Reason | DELINE | (REI) | | | | | | | |
| | Relinquished By: | | | | Received By: | | | | Date / / | |
| | Signature Printed Name | | | | Signature Printed Name | | | | | |
| | Company | | | | Company | | | | Time | |
| | Reason | | | | | | | | L | |
| Ī | Retinquished By: | | | | Received By: | | | | Date , | |
| ١ | Signature | | | | Signature Printed Name_ | | | | | |
| | Printed Name Company | | | | Company | | | | Time | |
| - 1 | Reason | | | | | | | | | |

Special Shipment / Handling / Storage Requirements:

* Note - This does not constitute authorization to proceed with analysis

LA. OR -0183

| _ • | . W | oodward- | Clyde Consult: | ants T | | MENT NO.: 6 |
|-------------------------------|------------|------------|----------------------------|---------------|---------------------------------------|-------------------|
| | | CHAIN OF | CUSTODY RECO | ORD | | 20f2 |
| no | O IECT NAM | e. Dougla | < Arrivell (| 0./0 | 6 DATE | 7/12/89 |
| rn po | OJECT NO | \$946 | 363) · TUSK | 1 | | |
| | Type | of Sample | Type of Container | | of Preservation | Analysis Required |
| Sample Number Locat | Materi | al Method | Type of Container | Temp | Chemical | |
| VCC - 75 - 1A MG | (-15 W te | 2 BAILTE | 40 mi VOA | 168 | KIL | (54KT: |
| 166-75-13 | | + | 4 07 44:5 | + | · · · · · · · · · · · · · · · · · · · | 114 335-88 |
| WCC -75-1C WCC -75-12 | | | 4 oz glis | | | |
| WCC-85-1AWC | -5: | | | | | |
| WCK-35-1B | | | V | + | <u> </u> | |
| WCC-85-10 | | | 402. glass | | | |
| WCC-85-18 V NCC-105-1A WCC | | ++- | 1 | | | |
| vcc-105-113 | .03 | | V , | | | |
| NCC-105-1C | | | 407.9655 | | | |
| 18C-105-1R V | 4 | | 40 20 004 | + | | |
| 15-12 WCC | -115 | | | + + | | |
| WCC-115-1B WCC-115-1C | | | 9 02.7655 | | | |
| vcc-11s-1R | / | V | 40 NR VOX | | | |
| D. I A - 1.2 | | 575 | 1 1/- | + 1, | | |
| D. T-B Jug | | 122 | Y | 13 | | |
| | | | | 101 | 11 | |
| Total Number of Sample | s Shipped: | 38 Sample | r's Signature: | A COM | 20 | Date |
| Relinquished By: | RA AL | in. | Received By: Signature | David 1 | aik_ | 7/13/ |
| SignaturePrinted Name | Pete | - GILRESMA | Printed Name_ | | Rozicki | Time |
| CompanyReason | JASS . | ter WEAS | Company | H-I | | 9:00 |
| | leliver, | દ | Received By: | m. (TV | chards | Date |
| Signature | Pazicki | | Signature Printed Name_ | -HPKI | | 05 7/17 Time |
| Company | · <u>/</u> | | Company | NCAS | W1319 | 1 /2 |
| | WERED | | Received By: | | | Date |
| Refinquished By: Signature | | | Signature | | | <u>_/</u> |
| Printed Name | | | Printed Name Company | | | Time |
| Reason | | | | | | Date |
| Relinquished By: | | | Received By: Signature | | | / |
| Signature Printed Name | | | Printed Name. | | | Time |
| | | | Company | | | |
| Company | | | | | | |

Note — This does not constitute authorization to proceed with analysis

LA. OR -0187

August 9, 1989

RECEIVED

CES! O I BUA

WCC-SANTA ANA

WCAS
WEST COAST
ANALYTICAL

SERVICE, INC.

WOODWARD-CLYDE CONSULTANTS 203 N. Golden Circle Drive Santa Ana, CA 92705

Attn:

Dr. Alistaire Callender

JOB NO.

13290

Α

LABORATORY REPORT

Samples Received: Twelve (12) waters

Date Received: 7-26-89

Date Released for Analysis: 8-7-89

Purchase Order No: Proj#: 8941863J/Task 1-Douglas Aircraft

The samples were analyzed as follows:

Samples Analyzed

Analysis

Results

Two (2) waters

Volatile Organics

by EPA 624

Data Sheets

Page 1 of 1

Michael Shelton Senior Chemist D. Northington, Ph.D. Technical Director

9840 Alburtis Avenue • Santa Fe Springs, California 90670 • 213/948-2225

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13290

SAMPLE: WCC-1D-1A

DATE RECEIVED: 07/26/89 DATE EXTRACTED: 08/08/89 DATE ANALYZED: 08/08/89

RUN NUMBER: SAMPLE AMOUNT: 5ML MATRIX:

13290V1 WATER

VOLATILE ORGANICS (EPA 624/8240)

UNITS: UG/L (PPB)

| | (2111 021) | ONTIO: OG/ L (PPB) | | | | | |
|------------|-----------------------------|--------------------|-----|--|--|--|--|
| CAS # | COMPOUND | CONCENTRATION | | | | | |
| 67-64-1 | ACETONE | מא מא | 5. | | | | |
| 71-43-2 | BENZENE | ND | 1. | | | | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. | | | | |
| 75-25-2 | BROMOFORM | ND | 1. | | | | |
| 74-83-9 | BROMOMETHANE | ND | 5. | | | | |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. | | | | |
| 75-15-0 | CARBON DISULFIDE | ND | 1. | | | | |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. | | | | |
| 108-90-7 | CHLOROBENZENE | ND | 1. | | | | |
| 75-00-3 | CHLOROETHANE | ND | 5. | | | | |
| 110-75-8 | | ND | 10. | | | | |
| 67-66-3 | CHLOROFORM | ND | 1. | | | | |
| 74-87-3 | CHLOROMETHANE | ND | 5. | | | | |
| 108-41-8 | CHLOROTOLUENE | ND | 1. | | | | |
| 124-48-1 | DIBROMOCHLOROMETHANE | . ND | 1. | | | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. | | | | |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. | | | | |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. | | | | |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. | | | | |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. | | | | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. | | | | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. | | | | |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. | | | | |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. | | | | |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. | | | | |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. | | | | |
| 100-41-4 | ETHYLBENZENE | ND | 1. | | | | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. | | | | |
| 76-13-1 | FREON-TF | ND | 1. | | | | |
| 119-78-6 | 2-HEXANONE | ND | 5. | | | | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. | | | | |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. | | | | |
| 100-42-5 | STYRENE | ND | 1. | | | | |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. | | | | |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. | | | | |
| 109-99-9 | TETRAHYDROFURAN | 5. | 5. | | | | |
| 108-88-3 | TOLUENE | 1. | 1. | | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. | | | | |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. | | | | |
| 79-01-6 | TRICHLOROETHYLENE | 2. | 1. | | | | |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. | | | | |
| 108-05-4 | VINYL ACETATE | ND | 5. | | | | |
| 75-01-4 | VINYL CHLORIDE | ND | 5. | | | | |
| 95-47-6 | TOTAL XYLENES | ND | 1. | | | | |
| | | | | | | | |

CLIENT: WOODWARD-CLYDE CONSULTANTS WCAS JOB #: 13290

SAMPLE: WCC-1D-1A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13290

SAMPLE: WCC-3D-1A

DATE RECEIVED: 07/26/89

RUN NUMBER: SAMPLE AMOUNT: 5ML

13290V2

DATE EXTRACTED: 08/08/89 DATE ANALYZED: 08/08/89

MATRIX:

WATER

VOLATILE ORGANICS (EPA 624/8240)

UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|------------|---|---------------|-----------|
| 67-64-1 | ACETONE | ND | 5. |
| 71-43-2 | BENZENE | ND | 1. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. |
| 75-25-2 | BROMOFORM | ND | 1. |
| 74-83-9 | BROMOMETHANE | ND | 5. |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. |
| 75-15-0 | CARBON DISULFIDE | ND | 1. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. |
| 108-90-7 | CHLOROBENZENE | ŃD | 1. |
| 75-00-3 | CHLOROETHANE | ND | 5. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. |
| 67-66-3 | CHLOROFORM | ND | 1. |
| 74-87-3 | CHLOROMETHANE | ND | 5. |
| 108-41-8 | CHLOROTOLUENE | ND | 1. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. |
| 541-73-1 | • | ND | 1. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 11. | 1. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. |
| 100-41-4 | ETHYLBENZENE | ND | 1. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. |
| 76-13-1 | FREON-TF | ND | 1. |
| 119-78-6 | 2-HEXANONE | ND | 5. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. |
| 100-42-5 | STYRENE | ND | 1. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. |
| 108-88-3 | TOLUENE | 3. | 1. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 49. | 1. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. |
| 79-01-6 | TRICHLOROETHYLENE | 4. | 1. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. |
| 108-05-4 | VINYL ACETATE | ND | 5. |
| 75-01-4 | VINYL CHLORIDE | ND | 5. |
| 95-47-6 | TOTAL XYLENES | ND | 1. |

WOODWARD-CLYDE CONSULTANTS CLIENT:

SAMPLE: WCC-7S-2A

WCAS JOB #: 13533

95-47-6

08/24/89 DATE RECEIVED: DATE EXTRACTED: 09/06/89 DATE ANALYZED: 09/06/89 RUN NUMBER: 13533V25 SAMPLE AMOUNT: 200UL WATER MATRIX:

| VOLATILE ORGANICS (EPA 624/8240) | | UNITS: UG/L (PPB) | | | | |
|---|-----------------------------|-------------------|------------|--|--|--|
| CAS # | COMPOUND | CONCENTRATION | DET LIMIT | | | |
| ==== ==== ============================ | ACETONE | ND | 100. | | | |
| 71-43-2 | BENZENE | ND | 30. | | | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 30. | | | |
| 75-25 -2 | BROMOFORM | ND | 30. | | | |
| 74-83-9 | BROMOMETHANE | ND | 100. | | | |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 100. | | | |
| 75-15-0 | CARBON DISULFIDE | ND | 30. | | | |
| 56-23 -5 | CARBON TETRACHLORIDE | ND | 30. | | | |
| 108-90-7 | CHLOROBENZENE | ND | 30. | | | |
| 75-00-3 | CHLOROETHANE | ND | 100. | | | |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 300. | | | |
| 67-66-3 | CHLOROFORM | ND | 30. | | | |
| 74-87-3 | CHLOROMETHANE | ND | 100. | | | |
| 108-41-8 | CHLOROTOLUENE | ND | 30. | | | |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 30. | | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 30. | | | |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 30. | | | |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 30. | | | |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 30. | | | |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 30. 30. | | | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 1100. | 30. | | | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 31. | 30. | | | |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 30. | | | |
| 78-87 - 5 | 1,2-DICHLOROPROPANE | ND | | | | |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 30. | | | |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 30. | | | |
| 100-41-4 | ETHYLBENZENE | ND | 30. 30. | | | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 30. | | | |
| 76-13-1 | FREON-TF | ND ND | 100. | | | |
| 119-78-6 | 2-HEXANONE | ND ND | 100. | | | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 100. | | | |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 30. | | | |
| 100-42-5 | STYRENE | ND | 30. | | | |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND . | 30. | | | |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 100. | | | |
| 109-99-9 | TETRAHYDROFURAN | ND | 30. | | | |
| 108-88-3 | TOLUENE | 66. | 30. | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 30. | | | |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | 1400. | 30. | | | |
| 79-01-6 | TRICHLOROETHYLENE | ND | 30. | | | |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 100. | | | |
| 108-05-4 | VINYL ACETATE | ND | 100. | | | |
| 75-01-4 | VINYL CHLORIDE | ND | 30. | | | |

TOTAL XYLENES

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-7S-2A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION _______

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-8S-2A

WCAS JOB #: 13533

DATE RECEIVED: 08/24/89

DATE EXTRACTED: 09/06/89 DATE ANALYZED: 09/06/89

RUN NUMBER: 13533V26 SAMPLE AMOUNT: 1ML MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240)

UNITS: UG/L (PPB)

| CASE COMPOUND CONCENTRATION DET LIMIT | | | | |
|--|---------------------------|-----------------------------|------|----|
| ACETONE | | | | |
| 71-43-2 BENZENE ND 5. 75-27-4 BROMODICHOROMETHANE ND 5. 75-27-2 BROMOFORM ND 5. 75-25-2 BROMOFORM ND 5. 74-83-9 BROMOMETHANE ND 30. 78-93-3 2-BUTANONE (MEK) ND 30. 75-15-0 CARBON DISULFIDE ND 5. 56-23-5 CARBON TETRACHLORIDE ND 5. 108-90-7 CHLOROBENZENE ND 5. 75-00-3 CHLOROFOTHANE ND 30. 67-66-3 CHLOROFORM ND 5. 67-66-3 CHLOROFORM ND 5. 110-75-8 2-CHLOROFOTHYLVINYL ETHER ND 50. 67-66-3 CHLOROFORM ND 5. 124-48-1 DIBROMOCHLOROMETHANE ND 5. 124-48-1 DIBROMOCHLOROMETHANE ND 5. 124-48-1 DIBROMOCHLOROMETHANE ND 5. 541-73-1 1,3-DICHLOROBENZENE ND 5. 106-46-7 1,4-DICHLOROBENZENE ND 5. 106-46-7 1,4-DICHLOROBENZENE ND 5. 107-06-2 1,2-DICHLOROBENZENE ND 5. 107-06-2 1,2-DICHLOROFTHANE ND 5. 156-59-4 CIS-1,2-DICHLOROFTHYLENE ND 5. 156-60-5 TRANS-1,2-DICHLOROFTHYLENE ND 5. 10661-01-5 CIS-1,3-DICHLOROFOPPNE ND 5. 10061-02-6 TRANS-1,3-DICHLOROPROPENE ND 5. 10061-02-6 TRANS-1,3-DICHLOROPROPENE ND 5. 100-41-4 ETHYLBENZENE ND 5. 119-78-6 2-HEXANONE ND 30. 100-42-5 STYRENE ND 5. 119-78-6 2-HEXANONE ND 30. 100-42-5 STYRENE ND 5. 179-34-5 1,1,2,2-TETRACHLOROFTHANE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 100-88-3 TOLUENE 100-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE ND 5. 71-56-94 TRICHLOROETHYLENE ND 5. 71-55-64 TRICHLOROETHYLENE ND 5. 71-55-65 1,1,1-TRICHLOROETHANE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE ND 5. 71-55-60-4 TRICHLOROETHANE ND 5. 71-56-60-4 TRICHLOROETHANE ND 5. 71-56-60-4 TRICHLOROETHANE ND 5. 71-56-60-4 TRICHLOROETHANE ND 5. 71-56-60-4 TRICHLOROETHANE ND 5. 71-50-00-5 TRICHLOROETHANE ND 5. 71-50-00-5 TRICHLOROETHANE ND 5. 71-50-00-5 TRICHLOROETHANE ND 5. 71-50-00-5 TRICHLOROETHANE ND 5. 71-50-00-4 TRICHLOROETHANE ND 5. 71-50-00-4 TRICHLOROETHANE ND 5. 71-50-00-5 TRICHLOROETHA | 67-64-1 | ACETONE | | |
| 75-27-4 BROMODICHLOROMETHANE | | | | |
| 75-25-2 BROMOFORM ND 5. 74-83-9 BROMOMETHANE ND 30. 78-93-3 2-BUTANONE (MEK) ND 30. 75-15-0 CARBON DISULFIDE ND 5. 108-90-7 CHLOROBENZENE ND 5. 75-00-3 CHLOROFTHANE ND 50. 110-75-8 2-CHLOROFORM ND 50. 74-87-3 CHLOROFORM ND 5. 74-87-3 CHLOROFTHANE ND 5. 108-41-8 CHLOROTOLUENE ND 5. 124-48-1 DIBROMOCHLOROBENZENE ND 5. 541-73-1 1,3-DICHLOROBENZENE ND 5. 541-73-1 1,3-DICHLOROBENZENE ND 5. 75-34-3 1,1-DICHLOROBENZENE ND 5. 75-34-3 1,1-DICHLOROETHYLENE 820. 5. 75-35-4 1,1-DICHLOROETHYLENE 820. 5. 156-69-5 TRANS-1,2-DICHLOROETHYLENE ND 5. 156-69 | 75-27-4 | | | |
| 74-83-9 BROMOMETHANE ND 30. 78-93-3 2-BUTANONE (MEK) ND 30. 75-15-0 CARBON DISULFIDE ND 5. 56-23-5 CARBON TETRACHLORIDE ND 5. 108-90-7 CHLOROBERZENE ND 5. 75-00-3 CHLOROETHANE ND 50. 67-66-3 CHLOROFORM ND 5. 74-87-3 CHLOROMETHANE ND 50. 108-41-8 CHLOROMETHANE ND 5. 108-41-8 CHLOROMETHANE ND 5. 124-48-1 DIBROMCCHLOROMETHANE ND 5. 124-48-1 DIBROMCHLOROMETHANE ND 5. 55-50-1 1,2-DICHLOROBENZENE ND 5. 106-46-7 1,4-DICHLOROBENZENE ND 5. 107-06-2 1,2-DICHLOROETHANE ND 5. 156-59-4 CIS-1,2-DICHLOROETHYLENE 820. 5. 156-59-4 CIS-1,3-DICHLOROETHYLENE ND 5. | 75-25 -2 | BROMOFORM | | |
| 78-93-3 | 74-83-9 | BROMOMETHANE | | |
| Total | 78-93 - 3 | | | |
| Section Sect | 75-15-0 | | | |
| 108-90-7 | 56-23-5 | | | |
| T5-00-3 | 108-90-7 | | | |
| 10-75-8 | 75-00-3 | CHLOROETHANE | | |
| 67-66-3 CHLOROFORM ND 5. 74-87-3 CHLOROMETHANE ND 30. 108-41-8 CHLOROTOLUENE ND 5. 124-48-1 DIBROMOCHLOROMETHANE ND 5. 95-50-1 1,2-DICHLOROBENZENE ND 5. 106-46-7 1,4-DICHLOROBENZENE ND 5. 107-06-2 1,4-DICHLOROETHANE ND 5. 107-06-2 1,2-DICHLOROETHANE ND 5. 107-06-2 1,2-DICHLOROETHYLENE 820. 5. 156-59-4 CIS-1,2-DICHLOROETHYLENE 7. 5. 156-60-5 TRANS-1,2-DICHLOROETHYLENE ND 5. 1066-05-7 TRANS-1,2-DICHLOROFROPENE ND 5. 10061-01-5 CIS-1,3-DICHLOROPROPENE ND 5. 10061-02-6 TRANS-1,3-DICHLOROFROPENE ND 5. 106-93-4 ETHYLENE DIBROMIDE ND 5. 106-93-4 ETHYLENE DIBROMIDE ND 5. 19-75-09-2 METHYLENE CHLORIDE < | 110-75-8 | 2-CHLOROETHYLVINYL ETHER | | |
| 74-87-3 | 67-66-3 | CHLOROFORM | | |
| 108-41-8 | 74-87-3 | CHLOROMETHANE | | |
| 124-48-1 DIBROMOCHLOROMETHANE ND 5. 95-50-1 1,2-DICHLOROBENZENE ND 5. 106-46-7 1,4-DICHLOROBENZENE ND 5. 106-46-7 1,4-DICHLOROBENZENE ND 5. 107-06-2 1,2-DICHLOROETHANE ND 5. 107-06-2 1,2-DICHLOROETHANE ND 5. 156-59-4 1,1-DICHLOROETHYLENE 820. 5. 156-60-5 TRANS-1,2-DICHLOROETHYLENE ND 5. 10061-01-5 CIS-1,3-DICHLOROETHYLENE ND 5. 10061-02-6 TRANS-1,3-DICHLOROPROPENE ND 5. 10061-02-6 TRANS-1,3-DICHLOROPROPENE ND 5. 100-41-4 ETHYLENE DIBROMIDE ND 5. 106-93-4 ETHYLENE DIBROMIDE ND 5. 119-78-6 2-HEXANONE ND 30. 129-78-6 2-HEXANONE ND 30. 108-10-1 4-METHYL-2-PENTANONE (MIBK) ND 30. 109-99-9 TETRAHYDROFURAN ND 5. 127-18-4 TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHANE ND 5. 179-00-5 1,1,2-TRICHLOROETHANE ND 5. 179-01-6 TRICHLOROETHANE ND 5. 179-01-6 TRICHLOROETHANE ND 5. 175-69-4 TRICHLOROETHANE ND 5. 175-01-4 VINYL CHLORIDE ND 30. 175-01-4 VINYL CHLORIDE ND 30. | 108-41-8 | CHLOROTOLUENE | | |
| 95-50-1 | 124-48-1 | DIBROMOCHLOROMETHANE | | |
| 541-73-1 1,3-DICHLOROBENZENE ND 5. 106-46-7 1,4-DICHLOROBENZENE ND 5. 75-34-3 1,1-DICHLOROETHANE ND 5. 107-06-2 1,2-DICHLOROETHYLENE ND 5. 75-35-4 1,1-DICHLOROETHYLENE 820. 5. 156-59-4 CIS-1,2-DICHLOROETHYLENE 7. 5. 156-60-5 TRANS-1,2-DICHLOROETHYLENE ND 5. 156-60-5 TRANS-1,2-DICHLOROETHYLENE ND 5. 10061-01-5 CIS-1,3-DICHLOROPROPANE ND 5. 10061-02-6 TRANS-1,3-DICHLOROPROPENE ND 5. 100-41-4 ETHYLENE DIBROMIDE ND 5. 106-93-4 ETHYLENE DIBROMIDE ND 5. 76-13-1 FREON-TF ND 5. 119-78-6 2-HEXANONE ND 30. 75-09-2 METHYLENE CHLORIDE ND 30. 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND | 95-50-1 | 1,2-DICHLOROBENZENE | | |
| 106-46-7 | 541-73-1 | 1,3-DICHLOROBENZENE | | |
| T5-34-3 | 106-46-7 | 1,4-DICHLOROBENZENE | | |
| 107-06-2 | | | | |
| 1,1-DICHLOROETHYLENE | 107-06-2 | 1,2-DICHLOROETHANE | | |
| 156-59-4 | _ | 1,1-DICHLOROETHYLENE | | |
| 156-60-5 | | CIS-1,2-DICHLOROETHYLENE | | |
| 78-87-5 1,2-DICHLOROPROPANE ND 5. 10061-01-5 CIS-1,3-DICHLOROPROPENE ND 5. 10061-02-6 TRANS-1,3-DICHLOROPROPENE ND 5. 100-41-4 ETHYLENEZENE ND 5. 106-93-4 ETHYLENE DIBROMIDE ND 5. 76-13-1 FREON-TF ND 5. 119-78-6 2-HEXANONE ND 30. 75-09-2 METHYLENE CHLORIDE ND 30. 108-10-1 4-METHYL-2-PENTANONE (MIBK) ND 30. 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 109-99-9 TETRACHLOROETHYLENE ND 5. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 30. 75-01-4 VINYL ACETATE ND 30. <td>156-60-5</td> <td>TRANS-1,2-DICHLOROETHYLENE</td> <td></td> <td></td> | 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | | |
| 10061-01-5 | | 1,2-DICHLOROPROPANE | | |
| 10061-02-6 TRANS-1,3-DICHLOROPROPENE ND 5. 100-41-4 ETHYLBENZENE ND 5. 106-93-4 ETHYLENE DIBROMIDE ND 5. 76-13-1 FREON-TF ND 5. 119-78-6 2-HEXANONE ND 30. 75-09-2 METHYLENE CHLORIDE ND 30. 108-10-1 4-METHYL-2-PENTANONE (MIBK) ND 30. 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROFLUOROMETHANE ND 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 30. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. <td>10061-01-5</td> <td>CIS-1,3-DICHLOROPROPENE</td> <td></td> <td></td> | 10061-01-5 | CIS-1,3-DICHLOROPROPENE | | |
| 100-41-4 ETHYLBENZENE ND 5. 106-93-4 ETHYLENE DIBROMIDE ND 5. 76-13-1 FREON-TF ND 30. 119-78-6 2-HEXANONE ND 30. 75-09-2 METHYLENE CHLORIDE ND 30. 108-10-1 4-METHYL-2-PENTANONE (MIBK) ND 30. 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 79-00-5 1,1,1-TRICHLOROETHANE 130. 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | | |
| 106-93-4 ETHYLENE DIBROMIDE ND 5. 76-13-1 FREON-TF ND 30. 119-78-6 2-HEXANONE ND 30. 75-09-2 METHYLENE CHLORIDE ND 30. 108-10-1 4-METHYL-2-PENTANONE (MIBK) ND 30. 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | 100-41-4 | ETHYLBENZENE | | |
| 76-13-1 FREON-TF ND 5. 119-78-6 2-HEXANONE ND 30. 75-09-2 METHYLENE CHLORIDE ND 30. 108-10-1 4-METHYL-2-PENTANONE (MIBK) ND 30. 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | 106-93-4 | ETHYLENE DIBROMIDE | | |
| 119-78-6 2-HEXANONE ND 30. 75-09-2 METHYLENE CHLORIDE ND 30. 108-10-1 4-METHYL-2-PENTANONE (MIBK) ND 30. 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | 76-13-1 | FREON-TF | | |
| 75-09-2 METHYLENE CHLORIDE ND 30. 108-10-1 4-METHYL-2-PENTANONE (MIBK) ND 30. 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | | 2-HEXANONE | | |
| 108-10-1 4-METHYL-2-PENTANONE (MIBK) ND 30. 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | 75-09-2 | METHYLENE CHLORIDE | | |
| 100-42-5 STYRENE ND 5. 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | | |
| 79-34-5 1,1,2,2-TETRACHLOROETHANE ND 5. 127-18-4 TETRACHLOROETHYLENE ND 5. 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | | STYRENE | ND | |
| 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | 79 - 3 4- 5 | 1,1,2,2-TETRACHLOROETHANE | ND | |
| 109-99-9 TETRAHYDROFURAN ND 30. 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | 127-18-4 | TETRACHLOROETHYLENE | ND | 5. |
| 108-88-3 TOLUENE ND 5. 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | | TETRAHYDROFURAN | ND | |
| 71-55-6 1,1,1-TRICHLOROETHANE 130. 5. 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | | TOLUENE | ND | |
| 79-00-5 1,1,2-TRICHLOROETHANE ND 5. 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | | 1,1,1-TRICHLOROETHANE | 130. | |
| 79-01-6 TRICHLOROETHYLENE 430. 5. 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | | 1,1,2-TRICHLOROETHANE | ND | • |
| 75-69-4 TRICHLOROFLUOROMETHANE ND 5. 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | | TRICHLOROETHYLENE | 430. | |
| 108-05-4 VINYL ACETATE ND 30. 75-01-4 VINYL CHLORIDE ND 30. | | TRICHLOROFLUOROMETHANE | | |
| 75-01-4 VINYL CHLORIDE ND 30. | | VINYL ACETATE | | |
| A | | VINYL CHLORIDE | | |
| | 95 -47- 6 | TOTAL XYLENES | ND | |

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-8S-2A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-10S-2A

DATE RECEIVED: 08/24/89
DATE EXTRACTED: 09/06/89 DATE ANALYZED: 09/06/89

RUN NUMBER: 13533V27

SAMPLE AMOUNT: 5ML MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240)

UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT | | | |
|-----------------|-----------------------------|---------------|-----------|--|--|--|
| 67-64-1 | ACETONE | ND | 5. | | | |
| 71-43-2 | BENZENE | ND | 1. | | | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. | | | |
| 75-25-2 | BROMOFORM | ND | 1. | | | |
| 74-83-9 | BROMOMETHANE | ND | 5. | | | |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. | | | |
| 75-15-0 | CARBON DISULFIDE | ND | 1. | | | |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. | | | |
| 108-90-7 | CHLOROBENZENE | ND | 1. | | | |
| 75-00-3 | CHLOROETHANE | ND | 5. | | | |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. | | | |
| 67-66-3 | CHLOROFORM | 4. | 1. | | | |
| 74-87-3 | CHLOROMETHANE | ND | 5. | | | |
| 108-41-8 | CHLOROTOLUENE | ND | 1. | | | |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. | | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. | | | |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. | | | |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. | | | |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. | | | |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. | | | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 4. | 1. | | | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. | | | |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. | | | |
| 78 -87-5 | 1,2-DICHLOROPROPANE | ND | 1. | | | |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. | | | |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. | | | |
| 100-41-4 | ETHYLBENZENE | ND | 1. | | | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. | | | |
| 76-13-1 | FREON-TF | ND | 1. | | | |
| 119-78-6 | 2-HEXANONE | ND | 5. | | | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. | | | |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. | | | |
| 100-42-5 | STYRENE | ND | 1. | | | |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. | | | |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. | | | |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. | | | |
| 108-88-3 | TOLUENE | ND | 1. | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | ī. | | | |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. | | | |
| 79-01-6 | TRICHLOROETHYLENE | 81. | 1. | | | |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. | | | |
| 108-05-4 | VINYL ACETATE | ND | 5. | | | |
| 75-01-4 | VINYL CHLORIDE | ND | 5. | | | |
| 95-47-6 | TOTAL XYLENES | ND | 1. | | | |
| 0 | | NB | • | | | |

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-10S-2A

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-10S-2R

WCAS JOB #: 13533

DATE RECEIVED: 08/24/89 RUN NUMBER: 13533V28

DATE EXTRACTED: 09/06/89 SAMPLE AMOUNT: 5ML
DATE ANALYZED: 09/06/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT | | | |
|------------------|-----------------------------|---------------|----------------|--|--|--|
| 67-64-1 | ACETONE | ND | 5. | | | |
| 71-43-2 | BENZENE | ND | 1. | | | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. | | | |
| 75-25-2 | BROMOFORM | ND | 1. | | | |
| 74-83-9 | BROMOMETHANE | ND | 5. | | | |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. | | | |
| 75-15-0 | CARBON DISULFIDE | ND | 1. | | | |
| 56-23 - 5 | CARBON TETRACHLORIDE | ND | 1. | | | |
| 108-90-7 | CHLOROBENZENE | ND | 1. | | | |
| 75-00-3 | CHLOROETHANE | ND | 5. | | | |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10, | | | |
| 67-66-3 | CHLOROFORM | ND | 1. | | | |
| 74-87-3 | CHLOROMETHANE | ND | 5. | | | |
| 108-41-8 | CHLOROTOLUENE | ND | 1. | | | |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. | | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. | | | |
| 541-73-1 | 1,3-DICHLOROBENZENE | ИD | 1. | | | |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. | | | |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. | | | |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. | | | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. | | | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 1. | | | |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 1. | | | |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. | | | |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. | | | |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. | | | |
| 100-41-4 | ETHYLBENZENE | ND | 1. | | | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. | | | |
| 76-13 -1 | FREON-TF | ND | 1. | | | |
| 119-78-6 | 2-HEXANONE | ND | 5. | | | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. | | | |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. | | | |
| 100-42-5 | STYRENE | ND | 1. | | | |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. | | | |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. | | | |
| 109-99-9 | TETRAHYDROFURAN | ND | 5. | | | |
| 108-88-3 | TOLUENE | ND | 1. | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. | | | |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. | | | |
| 79-01-6 | TRICHLOROETHYLENE | ND | 1. | | | |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | | | | |
| 108-05-4 | VINYL ACETATE | ND | 5. | | | |
| 75-01-4 | VINYL CHLORIDE | ND | 5. | | | |
| 95-47-6 | TOTAL XYLENES | ND | 1. | | | |
|) J 4, U | FORUM STRUCTURE | | - · | | | |

CLIENT: WOODWARD-CLYDE CONSULTANTS

WCAS JOB #: 13533

SAMPLE: WCC-10S-2R

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

Data Reporting Qualifiers

- Value If the result is a value greater than or equal to the Detection Limit (DL), the value is reported.
- ND Indicates that the compound was analyzed for but not detected. The minimum DL for the sample with the ND is reported based on necessary concentration or dilution actions.
- TR Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified DL but greater than zero.

Woodward-Clyde Consultants



CHAIN OF CUSTODY RECORD

| SHIPMENT | NO.: | |
|----------|------|---|
| PAGE_ | _OF_ | 3 |

PROJECT NO .: 8741863 J - TOSK 1

| C | 1 | Ту | pe of | Sample | T. | .na of | Container | Ī | Type of Preservation | | Analys | Analysis Required | |
|----------------------|------------|--------------|-----------------|---------|--------------|----------|-----------------------|------|----------------------|---------------------------------------|------------------|-------------------|---|
| Sample Number | Location | Mate | erial | Metho | d ' | /pe or | Container 40 Me Va | Ter | np | Chemical | | 7 7118143 | s riequireu |
| vici-15-2A | WCC-1 | 5 | == | B411 | | | CTUBE | 10 | | ٨ | KNE | | |
| الاد-15-23 | | W | AICI | - | | + | | / | | | 1 | | |
| NCC-15-ZC | 7 | | | | 4 | - 0Z. | 9/455 | | | | | | |
| wcc-15-2R | | | | | 4 | _ | AW | | | | | | |
| wcc-15-25 | | | | | 4 | | | | | | | | |
| VCC-25-2A | | | | | | 1 | | | | | | | |
| WCC-25-2B | | | | | | V . | | | | · · · · · · · · · · · · · · · · · · · | 1 | | |
| WCC-25-2C | T | + | | | 4 | 1 12 | alass | 1 | | | | | |
| | 1 | + | | | | o Ab | 11 . | T | 1 1 | | | | |
| WCC-25-2R | T . | + | | | \dashv | <u> </u> | 1 | +- | 1 1 | | | | |
| WCC-25-25 | | + | | | | | ₹ | 1 | +-1 | | | | ٠. |
| WCC-35-3A | 1 | + | \vdash | | \dashv | ₩ | } | + | + | - | | | |
| WCC-35-2B | | + | $\vdash \dashv$ | | 4 | | 101 == | +- | + | | + | + | |
| WCC-35-2C | T | + | | | | | glass 1 | + | + | | + | | |
| wcc-35-2R | T | + | | | - - | o me | ACU | + | +- | - | + | | *************************************** |
| WCC-35-25 | | ┿ | | | | | \ | + | + | | | | |
| WCC-95-2A | | <u> </u> | | | | | 1 | | - | | | - | |
| wcc-45-28 | | | | | | | } | ┼ | - | | | | |
| WCC 45-2C | / | | | | | | y glass | | ┼ | | | | |
| wcc-45-2R | / | <u> </u> | ļ, | 1 | | to il | VOA | _ | // | | . / | | |
| wcc-4s-2s | · V | \perp | / | V | | <u> </u> | 168 | يط | .• | <u> </u> | <u>v</u> | | |
| Total Number of | Samples St | nipped: | | Sarr | pler's S | ignatu | re: / | 124 | <u>لاکے ج</u> | | | | |
| Relinquished By: | (24) | Pro | ^=: <u>-</u> | | - 1 | | ed By: | | | 1/16 | ,, | • | Date |
| Signature | 10- | | | SMAR | - | - | ture ed Name_ | | , = | 1/1/0 | <u> </u> | | |
| Printed Name Company | U | くしこ | | | | | pany | | | 7-1 | | | Time |
| Reason | exity. | संस | براعا | 10 y +5 | west. | | | | • | · | | | 810 |
| Relinguished By: | | ٥.) | (| | | Receiv | ed By: / | 2/1- | | 11/2 | | | Date |
| Signature | /2- | / | <u>.</u> | | | _ | | | m | <u> </u> | nall | | - <u>8 124 1</u> |
| Printed Name | Kin A- | 12-1 | -/ | | | | ed Name_ | +- | // / / / | Gecti | o, Jall | | Time |
| Company Reason | | | | | | Com | pany | U | NO | 45 | | | 11:00- |
| Relinquished By: | | | | | | Receiv | ed By: | | | | | | Date |
| Signature | | | | | | Signa | ature | | | | | | - <u> </u> |
| Printed Name | | | | | | | ted Name_ | | | | | | Time |
| Company | | | | | | Com | pany | | | | | | - |
| Reason | | | | | | D | ad Bu | | | | | | Date |
| Relinquished By: | | | | | | | ed By: ature | | | | | | |
| Signature | | | | | | | ted Name_ | | | | | | _ = =================================== |
| Printed Name | | | | | | | pany | | | | | | Time |
| Printed Name Company | | | | | | Com | Parry | | | | | | ı |

* Note - This does not constitute authorization to proceed with analysis

LA/OR-0183-421

RECEIVED

September 29, 1989

OUT 8 A SOLL

WCC-SANTA ANA

WEST COAST ANALYTICAL SERVICE INC

WOODWARD-CLYDE CONSULTANTS 203 N. Golden Circle Drive Santa Ana, CA 92705

Attn:

Dr. Alistaire Callender

JOB NO.

13764

ANALYTICAL CHEMISTS

Α

LABORATORY REPORT

Samples Received:

Thirteen (13) soils

Date Received: 9-25-89

Purchase Order No: Proj#: 8941863J-I/Douglas Aircraft

The samples were analyzed as follows:

Samples Analyzed

Analysis

Results

Three (3) soils

Volatile Organics

by EPA 8240

Data Sheets

Page 1 of 1

B. Michael Hovanec Senior Staff Chemist D.J. Northington, Ph.D. Technical Director

CLIENT: WOODWARD-CLYDE RECEIVEMPLE: 6S-8-4

WCAS JOB #: 13764

OCT 0 4 (900

DATE RECEIVED: 09/25/89
DATE EXTRACTED: 09/29/89
DATE ANALYZED: 09/29/89
WCC-SANTA ANARUN NUMBER: 13764V4
SAMPLE AMOUNT: 0.1G
MATRIX: SOIL

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/KG (PPB)

| CAS # | COMPOUND | CONCENTRATION | DET LIMIT |
|----------------------|-----------------------------|---------------|-----------|
| 67-64-1 | ACETONE | ND | 300. |
| 71-43-2 | BENZENE | ND | 50. |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 50. |
| 75-25-2 | BROMOFORM | ND | 50. |
| 74-83-9 | BROMOMETHANE | ND | 300. |
| 78-93-3 | 2-BUTANONE (MEK) | 9400. | 300. |
| 75-15-0 | CARBON DISULFIDE | ND | 50. |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 50. |
| 108-90-7 | CHLOROBENZENE | ND | 50. |
| 75-00-3 | CHLOROETHANE | ND | 300. |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 500. |
| 67 - 66-3 | CHLOROFORM | ND | 50. |
| 74-87-3 | CHLOROMETHANE | ND | 300. |
| 108-41-8 | CHLOROTOLUENE | ND | 50. |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 50. |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 50. |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 50. |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 50. |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 50. |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 50. |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 50. |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 50. |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 50. |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 50. |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 50. |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 50. |
| 100-41-4 | ETHYLBENZENE | ND | 50. |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 50. |
| 76-13-1 | FREON-TF | ND | 50. |
| 119-78-6 | 2-HEXANONE | ND | 300. |
| 75-09-2 | METHYLENE CHLORIDE | ND | 300. |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | 8400. | 300. |
| 100-42-5 | STYRENE | ND | 50. |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 50. |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 50. |
| 109-99-9 | TETRAHYDROFURAN | ND | 300. |
| 108-88-3 | TOLUENE | 1000. | 50. |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 50. |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 50. |
| 79-01-6 | TRICHLOROETHYLENE | ND | 50. |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 50. |
| 108-05-4 | VINYL ACETATE | ND | 300. |
| 75-01-4 | VINYL CHLORIDE | ND | 300. |
| 95-47-6 | TOTAL XYLENES | ND | 50. |

CLIENT: WOODWARD-CLYDE

SAMPLE: 6S-8-4

WCAS JOB #: 13764

UNITS: UG/KG (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 BUTYL CELLOSOLVE

VOA

300.

CLIENT: WOODWARD-CLYDE SAMPLE: 6S-9-4

WCAS JOB #: 13764

DATE RECEIVED: 09/25/89 RUN NUMBER: 13764V2
DATE EXTRACTED: 09/29/89 SAMPLE AMOUNT: 0.1G
DATE ANALYZED: 09/29/89 MATRIX: SOIL

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/KG (PPB)

| | , , | | | | |
|--------------|-----------------------------|---------------|-----------|--|--|
| CAS # | COMPOUND | CONCENTRATION | DET LIMIT | | |
| 67-64-1 | ACETONE | ND | 300. | | |
| 71-43-2 | BENZENE | ND | 50. | | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 50. | | |
| 75-25-2 | BROMOFORM | ND | 50. | | |
| 74-83-9 | BROMOMETHANE | ND | 300. | | |
| 78-93-3 | 2-BUTANONE (MEK) | 9200. | 300. | | |
| 75-15-0 | CARBON DISULFIDE | ND | 50. | | |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 50. | | |
| 108-90-7 | CHLOROBENZENE | ND | 50. | | |
| 75-00-3 | CHLOROETHANE | ND | 300. | | |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 500. | | |
| 67-66-3 | CHLOROFORM | ND | 50. | | |
| 74-87-3 | CHLOROMETHANE | ND | 300. | | |
| 108-41-8 | CHLOROTOLUENE | ND | 50. | | |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 50. | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 50. | | |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 50. | | |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 50. | | |
| 75-34-3 | 1,1-DICHLOROETHANE | - ND | 50. | | |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 50. | | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 240. | 50. | | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 50. | | |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ИD | 50. | | |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 50. | | |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 50. | | |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 50. | | |
| 100-41-4 | ETHYLBENZENE | ND | 50. | | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 50. | | |
| 76-13-1 | FREON-TF | ND | 50. | | |
| 119-78-6 | 2-HEXANONE | ND | 300. | | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 300. | | |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | 2500. | 300. | | |
| 100-42-5 | STYRENE | ND | 50. | | |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 50. | | |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 50. | | |
| 109-99-9 | TETRAHYDROFURAN | ND | 300. | | |
| 108-88-3 | TOLUENE | 2200. | 50. | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 50. | | |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 50. | | |
| 79-01-6 | TRICHLOROETHYLENE | 83. | 50. | | |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 50. | | |
| 108-05-4 | VINYL ACETATE | ND | 300. | | |
| 75-01-4 | VINYL CHLORIDE | ND | 300. | | |
| 95-47-6 | TOTAL XYLENES | ND | 50. | | |
| - | | .,, | | | |

CLIENT:

WOODWARD-CLYDE

SAMPLE: 6S-9-4

WCAS JOB #: 13764

UNITS: UG/KG (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 BUTYL CELLOSOLVE

VOA

700.

CLIENT: WOODWARD-CLYDE SAMPLE: 6S-10-4

WCAS JOB #: 13764

DATE RECEIVED: 09/25/89

DATE EXTRACTED: 09/29/89

DATE ANALYZED: 09/29/89

RUN NUMBER: 13764V1

SAMPLE AMOUNT: 1.0G

MATRIX: SOIL

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/KG (PPB)

| | 01111 024/ 0240) | UNITS: UG/KG (PPB) | | | |
|------------|-----------------------------|--------------------|-----------|--|--|
| CAS # | COMPOUND | CONCENTRATION | DET LIMIT | | |
| 67-64-1 | ACETONE | ========== ND | 30. | | |
| 71-43-2 | BENZENE | ND | 5. | | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 5. | | |
| 75-25-2 | BROMOFORM | ND | 5. | | |
| 74-83-9 | BROMOMETHANE | ND | 30. | | |
| 78-93-3 | 2-BUTANONE (MEK) | 550. | 30. | | |
| 75-15-0 | CARBON DISULFIDÉ | ND | 5. | | |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 5. 5. | | |
| 108-90-7 | CHLOROBENZENE | ND | 5. | | |
| 75-00-3 | CHLOROETHANE | ND | 30. | | |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 50. | | |
| 67-66-3 | CHLOROFORM | ND | 5. | | |
| 74-87-3 | CHLOROMETHANE | ND | | | |
| 108-41-8 | CHLOROTOLUENE | ND | 30. | | |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 5. 5. | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | | | |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 5. | | |
| 106-46-7 | 1,4-DICHLOROBENZENE | | 5. | | |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 5. | | |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 5. | | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 5. | | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | 5. | | |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | ND | 5. | | |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 5. | | |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 5. | | |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 5. | | |
| 100-41-4 | ETHYLBENZENE | ND | 5. | | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 5. | | |
| 76-13-1 | FREON-TF | ND | 5. | | |
| 119-78-6 | 2-HEXANONE | ND | 5. | | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 30. | | |
| 108-10-1 | | ND | 30. | | |
| 100-42-5 | 4-METHYL-2-PENTANONE (MIBK) | 330. | 30. | | |
| 79-34-5 | STYRENE | ND | 5. | | |
| | 1,1,2,2-TETRACHLOROETHANE | ND | 5. | | |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 5. | | |
| 109-99-9 | TETRAHYDROFURAN | ND | 30. | | |
| 108-88-3 | TOLUENE | 150. | 5. | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 5. | | |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 5. | | |
| 79-01-6 | TRICHLOROETHYLENE | 7. | 5. | | |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 5. | | |
| 108-05-4 | VINYL ACETATE | ND | 30. | | |
| 75-01-4 | VINYL CHLORIDE | ND | 30. | | |
| 95-47-6 | TOTAL XYLENES | ND | 5. | | |

CLIENT: WOODWARD-CLYDE

WCAS JOB #: 13764

SAMPLE: 6S-10-4

UNITS: UG/KG (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

Data Reporting Qualifiers

- Value If the result is a value greater than or equal to the Detection Limit (DL), the value is reported.
- ND Indicates that the compound was analyzed for but not detected. The minimum DL for the sample with the ND is reported based on necessary concentration or dilution actions.
- TR Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified DL but greater than zero.

RECEIVED

4

Woodward-Clyde Consultants

894.963



SHIPMENT NO .:__/

OCT a 4 in-

CHAIN OF CUSTODY RECORD

PAGE_

WCC-SANTA ANA

PROJECT NAME: DOUGLAS A. RORAGT CO

* Note - This does not constitute authorization to proceed with analysis

PROJECT NO.:___ Type of Preservation Type of Sample Analysis Required * Type of Container Location Sample Number Chemical Method Temp Material NUME 166 7.1 7" 5x-75 TUBE 4 2 . 1 i - - -324 CR -4 1. 4 = 7-6 - IN -W 1. 1 --2-11-4 Total Number of Samples Shipped: 37 Sampler's Signature: 1/2/147 Date Received By: Relinquished By: Signature_ Signature_ Printed Name_ Printed Name____ Time Company__ Company____ Reason_ Date Received By:: Relinquished By: Signature___ Signature __ Printed Name Printed Name_ Time 11/-1/1 19/1 Company.... Reason_ Date Received By: Relinquished By: | Mau Signature_ Signature_ Printed Name. Printed Name_1 Time Company_ Company___ Reason_ Date Received By: Relinquished By: Signature_ Signature_ Printed Name_ Time Printed Name_ Company__ Company_ Reason. Special Shipment / Handling / Storage Requirements: w1376A

LA/OR -0183-421

October 18, 1989

RECEIVED

OCT 1 9 (300)

WCC-SANTA ANA



WEST COAST ANALYTICAL SERVICE, INC.

Attn:

Dr. Alistaire Callender

JOB NO.

13882

WOODWARD-CLYDE CONSULTANTS

203 N. Golden Circle Dr.

Santa Ana, CA 92705

LABORATORY REPORT

Samples Received: Three (3) liquids in quadruplicate

Date Received: 10-9-89

Date Released for Analysis: 10-11-89

Purchase Order No: Proj#: 8941863J/Douglas Aircraft

The samples were analyzed as follows:

Samples Analyzed

Analysis

Results

Three (3) liquids

Volatile Organics

by EPA 624

Data Sheets

Page 1 of 1

for

Michael Shelton Senior Chemist

J. Northington, Ph.D. Technical Director

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-6S-1A

WCAS JOB #: 13882

DATE RECEIVED: 10/09/89 RUN NUMBER: 13882V5 DATE EXTRACTED: 10/17/89 SAMPLE AMOUNT: 5ML DATE ANALYZED: 10/17/89 MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/I. (PDR)

| | (CINTED (LFA 024/8240) | UNITS: UG/L (PPB) | | | | |
|----------------|---|-------------------|-----------|--|--|--|
| CAS # ======== | COMPOUND | CONCENTRATION | DET LIMIT | | | |
| 67-64-1 | ACETONE | ND | | | | |
| 71-43-2 | BENZENE | ND | 5. | | | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. | | | |
| 75-25-2 | BROMOFORM | ND | 1. | | | |
| 74-83-9 | BROMOMETHANE | ND | 1. 5. | | | |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. 5. | | | |
| 75-15-0 | CARBON DISULFIDE | ND | | | | |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. | | | |
| 108-90-7 | CHLOROBENZENE | ND | 1. | | | |
| 75-00-3 | CHLOROETHANE | ND | 1. | | | |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 5. | | | |
| 67-66-3 | CHLOROFORM | ND | 10. | | | |
| 74-87-3 | CHLOROMETHANE | ND | 1. | | | |
| 108-41-8 | CHLOROTOLUENE | ND | 5. | | | |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. | | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. | | | |
| 541-73-1 | 1,3-DICHLOROBENZENE | | 1. | | | |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | 1. | | | |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. | | | |
| 107-06-2 | 1,2-DICHLOROETHANE | 4. | 1. | | | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | 3. | 1. | | | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 210. | 1. | | | |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | 12. | 1. | | | |
| 78-87-5 | 1,2-DICHLOROPROPANE | 7. | 1. | | | |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. | | | |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | ND | 1. | | | |
| 100-41-4 | ETHYLBENZENE | ND | 1. | | | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. | | | |
| 76-13-1 | FREON-TF | ND | 1. | | | |
| 119-78-6 | 2-HEXANONE | ND | 1. | | | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. | | | |
| 108-10-1 | A 1000 00 00 00 00 00 00 00 00 00 00 00 0 | ND | 5. | | | |
| 100-42-5 | 4-METHYL-2-PENTANONE (MIBK) STYRENE | ND | 5. | | | |
| 79-34-5 | | ND | 1. | | | |
| 127-18-4 | 1,1,2,2-TETRACHLOROETHANE | ND ND | 1. | | | |
| 109-99-9 | TETRACHLOROETHYLENE | ND | 1. | | | |
| 108-88-3 | TETRAHYDROFURAN | ND | 5. | | | |
| 71-55-6 | TOLUENE | ND | 1. | | | |
| 79-00-5 | 1,1,1-TRICHLOROETHANE | 130. | 1. | | | |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | 4. | 1. | | | |
| | TRICHLOROETHYLENE | 140. | 1. | | | |
| 75-69-4 | TRICHLOROFLUOROMETHANE | ND | 1. | | | |
| 108-05-4 | VINYL ACETATE | ND | 5. | | | |
| 75-01-4 | VINYL CHLORIDE | ND | 5. | | | |
| 95-47-6 | TOTAL XYLENES | ND | 1. | | | |
| | | | | | | |

CLIENT:

WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-6S-1A

WCAS JOB #: 13882

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-9S-1A CLIENT:

WCAS JOB #: 13882

DATE RECEIVED: 10/09/89 RUN NUMBER: 13882V7 DATE EXTRACTED: 10/17/89 DATE ANALYZED: 10/17/89 SAMPLE AMOUNT: 5ML MATRIX: WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| | , , | ONTID: OG/L (PPB) | | | | |
|----------------|--|--|-----------|--|--|--|
| CAS # ======== | COMPOUND | CONCENTRATION | DET LIMIT | | | |
| 67-64-1 | ACETONE | ====================================== | | | | |
| 71-43-2 | BENZENE | ND | 5. | | | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. | | | |
| 75-25-2 | BROMOFORM | ND | 1. | | | |
| 74-83-9 | BROMOMETHANE | ND | 1. 5. | | | |
| 78-93-3 | 2-BUTANONE (MEK) | ND ND | 5. | | | |
| 75-15-0 | CARBON DISULFIDE | ND | 1. | | | |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. | | | |
| 108-90-7 | CHLOROBENZENE | ND | 1. | | | |
| 75-00-3 | CHLOROETHANE | ND | 5. | | | |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. | | | |
| 67-66-3 | CHLOROFORM | ND | 1. | | | |
| 74-87-3 | CHLOROMETHANE | ND | 5. | | | |
| 108-41-8 | CHLOROTOLUENE | ND | 1. | | | |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. | | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. | | | |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. | | | |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | | | | |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. | | | |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. | | | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. | | | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | 7. | 1. | | | |
| 156-60-5 | TRANS-1,2-DICHLOROETHYLENE | , . ИD | 1. | | | |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. | | | |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. | | | |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | | 1. | | | |
| 100-41-4 | ETHYLBENZENE | ND | 1. | | | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. | | | |
| 76-13-1 | FREON-TF | ND | 1. | | | |
| 119-78-6 | 2-HEXANONE | 2. | 1. | | | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. | | | |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. | | | |
| 100-42-5 | STYRENE (MIDK) | ND | 5. | | | |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. | | | |
| 127-18-4 | TETRACHLOROETHYLENE | ND | 1. | | | |
| 109-99-9 | TETRACHLOROETHY LENE TETRAHYDROFURAN | ND | 1. | | | |
| 108-88-3 | TOLUENE | ND | 5. | | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. | | | |
| 79-00-5 | 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE | ND | 1. | | | |
| 79-01-6 | TRICHLOROETHYLENE | ND | 1. | | | |
| 75-69-4 | | 15. | 1. | | | |
| 108-05-4 | TRICHLOROFLUOROMETHANE | ND | 1. | | | |
| 75-01-4 | VINYL ACETATE | ND | 5. | | | |
| 95-47-6 | VINYL CHLORIDE | ND | 5. | | | |
| JJ 4/-0 | TOTAL XYLENES | ND | 1. | | | |

CLIENT:

WOODWARD-CLYDE CONSULTANTS

SAMPLE: WCC-9S-1A

WCAS JOB #:

13882

UNITS: UG/L (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

NONE FOUND

CLIENT: WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-12S-1A

WCAS JOB #: 13882

DATE RECEIVED: 10/09/89

DATE EXTRACTED: 10/17/89

DATE ANALYZED: 10/17/89

RUN NUMBER: 13882V8

SAMPLE AMOUNT: 5ML

WATER

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/L (PPB)

| CAS # | COMPOUND | CONCENTRATION | | | |
|------------|-----------------------------|---------------|-----|--|--|
| 67-64-1 | ACETONE | ND | 5. | | |
| 71-43-2 | BENZENE | ND | 1. | | |
| 75-27-4 | BROMODICHLOROMETHANE | ND | 1. | | |
| 75-25-2 | BROMOFORM | ND | 1. | | |
| 74-83-9 | BROMOMETHANE | ND | 5. | | |
| 78-93-3 | 2-BUTANONE (MEK) | ND | 5. | | |
| 75-15-0 | CARBON DISULFIDE | ND | 1. | | |
| 56-23-5 | CARBON TETRACHLORIDE | ND | 1. | | |
| 108-90-7 | CHLOROBENZENE | · ND | 1. | | |
| 75-00-3 | CHLOROETHANE | ND | 5. | | |
| 110-75-8 | 2-CHLOROETHYLVINYL ETHER | ND | 10. | | |
| 67-66-3 | CHLOROFORM | ND | i. | | |
| 74-87-3 | CHLOROMETHANE | ND | 5. | | |
| 108-41-8 | CHLOROTOLUENE | ND | 1. | | |
| 124-48-1 | DIBROMOCHLOROMETHANE | ND | 1. | | |
| 95-50-1 | 1,2-DICHLOROBENZENE | ND | 1. | | |
| 541-73-1 | 1,3-DICHLOROBENZENE | ND | 1. | | |
| 106-46-7 | 1,4-DICHLOROBENZENE | ND | ī. | | |
| 75-34-3 | 1,1-DICHLOROETHANE | ND | 1. | | |
| 107-06-2 | 1,2-DICHLOROETHANE | ND | 1. | | |
| 75-35-4 | 1,1-DICHLOROETHYLENE | ND | 1. | | |
| 156-59-4 | CIS-1,2-DICHLOROETHYLENE | ND | ī. | | |
| 156-60-5 | TRANS-1, 2-DICHLOROETHYLENE | ND | ī. | | |
| 78-87-5 | 1,2-DICHLOROPROPANE | ND | 1. | | |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | ND | 1. | | |
| 10061-02-6 | TRANS-1, 3-DICHLOROPROPENE | ND | 1. | | |
| 100-41-4 | ETHYLBENZENE | ND | 1. | | |
| 106-93-4 | ETHYLENE DIBROMIDE | ND | 1. | | |
| 76-13-1 | FREON-TF | 4. | 1. | | |
| 119-78-6 | 2-HEXANONE | ND | 5. | | |
| 75-09-2 | METHYLENE CHLORIDE | ND | 5. | | |
| 108-10-1 | 4-METHYL-2-PENTANONE (MIBK) | ND | 5. | | |
| 100-42-5 | STYRENE CHICAGO (MIDK) | ND | 1. | | |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | ND | 1. | | |
| 127-18-4 | TETRACHLOROETHYLENE | ND | | | |
| 109-99-9 | TETRAHYDROFURAN | | 1. | | |
| 108-88-3 | TOLUENE | ND | 5. | | |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | ND | 1. | | |
| 79-00-5 | | ND | 1. | | |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | ND | 1. | | |
| 75-69-4 | TRICHLOROETHYLENE | ND | 1. | | |
| 108-05-4 | TRICHLOROFLUOROMETHANE | ND | 1. | | |
| 75-01-4 | VINYL ACETATE | ND | 5. | | |
| | VINYL CHLORIDE | ND | 5. | | |
| 95-47-6 | TOTAL XYLENES | ND | 1. | | |

CLIENT:

WOODWARD-CLYDE CONSULTANTS SAMPLE: WCC-12S-1A

WCAS JOB #: 13882

UNITS: UG/L (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

1 NONE FOUND

Data Reporting Qualifiers

- Value If the result is a value greater than or equal to the Detection Limit (DL), the value is reported.
- ND Indicates that the compound was analyzed for but not detected. The minimum DL for the sample with the ND is reported based on necessary concentration or dilution actions.
- TR Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified DL but greater than zero.

Woodward-Clyde Consultants



CHAIN OF CUSTODY RECORD

SHIPMENT NO .:____

PAGE 2 OF 3

PROJECT NAME: Duglas Aircraft Co. (CG) DATE 8 1231 89

| Sample Number Locat | tion Type of | | Type of | pe of Container | | Type of Preservation | | Analysis Required | |
|------------------------|-----------------|----------|--------------------|--|--|--|-------------|--|--------|
| | Material | | | 40mens | | Chemic | | | |
| VCC-55-2A WCC | -55 16 WATE | 2 PAILER | | 5136 | 100 | NONE | 5 | | • |
| NCC-55-28 | | | } | ŧ | | | | | |
| WCC-55-20 | | | Aoz. | glass | | | | | |
| WCC-55-22 | | | How | VOA | | | | | |
| WCC-55-25 V | | | 1 \$ | | | | | | |
| WCC-75-2A. WCC | | | | | | | | | |
| WCC-75-26 | (3) | | ,// | } | | | | | |
| | | | 4 07 | glass | | | | | |
| wcc-75-2c/ | | | gonl | RVUA | | | | | |
| WCE-75 -2R/ | | | 40 22 | Y | | 1 | | | |
| Wec - 75-25 V | | | - - , | ; | | | | | |
| WCC-85-20 WCC | -55 | | | } | | | | <u> </u> | |
| WCC-85-2BV | - | | | 3 , | \vdash | + | | | - |
| MCC-32-30/ | <u> </u> | | | 1 shes | | + | | | |
| WCC-85-28/ | | | AON | ACV 4 | | ++ | | | , |
| WCC-85-25/ V | <u> </u> | | | 7 | | | | | |
| WCC-105-20 VINCE | -105 | | | 1 | | | | | |
| WCC-105-26/ | | | | 4 | | | | | |
| WCC-105-20 | | | 4 02. | Julies | | | | ļ | |
| WCC-105-28 | | | 40, l | ACV & | | 1 | | | |
| WCC - 105 -25/ V | | V | <u> </u> | 78 - | LV. | <u> </u> | | 1 | |
| Total Number of Sample | s Shipped: | Sampler | 's Signatu | re: کسر | 12 B | Upp | | | |
| Relinquished By: , 7 , | w Bloen. | | | ed By: | برمحير | ill i | | | Date |
| Signature | | | | ature | | 10 / | 2007 | | 81218 |
| | peter Gre | | | ed Name pany | | 1_/// | 1 | | Time |
| Company | wo + WC | 20 | _ | Parry | | | | | 8.77 |
| Delia michael Bur | 1 1 | | Receiv | ed By: 🕡 | † | <u>, 1</u> | 1 | | Date |
| Relinquished By: | - ZX/ | | Sign | ature// | auri (| edenal | <u></u> | | 812415 |
| Printed Name / | 16 -11 | | Print | ed Name | -:- | 100 | الطبه | · · · · · · · · · · · · · · · · · · · | Time |
| Company | | | Com | pany | 40 | CAS . | | | 11:00 |
| Reason/_/_ | | | = | | | | | | Date |
| Relinquished By: | | | | ed By: | | | | | / / |
| Signature Printed Name | | | | | | | | | |
| Company | | | Com | ipany | | | | | Time |
| Reason | | | | | | | | | |
| Relinquished By: | | | | red By: | | | | | Date |
| Signature | | | | | | | | | |
| Printed Name | | | | | | | | | Time |
| 1 4 11 11 14 11 V | | | | , - , - | | | | | 1 |

h13533

* Note - This does not constitute authorization to proceed with analysis

LA/OR-0183-421

| | | Woo | dward- | Ctyde Consult: | ants 🖣 | SHIPM | IENT NO.: | _ |
|---------------------------|------------|--------------|------------|------------------------|--------|--------------------------|---------------|-----------------------|
| | | С | HAIN OF | CUSTODY RECO | ORD | PAGE | 3_0F_3_ | _ |
| | | T 114115 | Donle | s Aircraft | Ca. | (CG) DATE | 8 1231 80 | <u> </u> |
| | PROJEC | T NO.: | R94186 | 3.1 - TASK | 1 | | | |
| Sample Number | Location | Type of | Sample | Type of Container | | of Preservation Chemical | Analysis Requ | ired * |
| | | Material | Method | 0. (1.1) | Temp | MAE | <u> </u> | |
| NCC-10-24 | | WITEX | BSILER | 40 M VOA | 100 | NONE | | |
| MCC-17-28 | | | | 4 01-55 | | | | |
| wcc-10-20 | | | | 4 oz. glass | | | | |
| WCC-10-2R | | | | I I | | | | |
| MCC-3D- 2A | | | | | | | | |
| WCC -3D - 2B | | | | 4 | | | | |
| WCC-30-20 | 1 1 | | | 4 oz. glass | | | | |
| wec-30-2R | 1 1 | | | 40 Me UDA | | 4 | | |
| WCC-30-25 | 1 12 | V | V | V | V | <u> </u> | | |
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| Total Number of | Samples Sh | ipped: | Sample | r's Signature: | | De du | <u> </u> | Date |
| Relinquished By: | solie a | Sisu_ | | Received By: Signature | | sill/ra | 1 8/ | Date <u>Cu / S</u> |
| Signature Printed Name | POH | a 610 | PEMEL | Printed Name_ | | F11 600 | / | Time |
| Company | · · · · | vcc | | Company | | A-1 | | |
| Reason | Ms De | livery 7 | wess | | | | | Date |
| Relinquished By: | 2 | 1/ | | Received By: Signature | Mary | Cederur | 20 8h | 24 Kg |
| Signature Printed Name | Ken | R-1-1 | | Printed Name_ | 11 | Code wa | // | Time |
| Company | 12/ | | | Company | | 5 | 3 | 1064 |
| Reason | | | | | | | | Date |
| Relinquished By: | | | t | Received By: | | | 1 , | |
| Signature Printed Name | | | | | | | | Time |
| Company | | | | Company | | | | HITE |
| Reason | | | | | | <u> </u> | | Date |
| Relinguished By: | | | | Received By: | | | 1 | Jake / |
| Signature Printed Name | | | | Printed Name | | | | Time |
| Company | | | | 3 | | | | 111116 |
| Reason | | | | | | | | |
| Special Shipment | / Handling | / Storage | Requiremen | nts: | | | | |
| | | | | · | | To I | 3538 | |
| | | | | | | . – | _ | |
| | | | harisasias | to proceed with anal | vsis | | | |
| * Note — This d | oes not co | nstitute aut | norization | to proceed with anal | y 313 | | LA/OR | -0183- |

| | | Woo | dward- | Clyde Consult | ants 🗲 | - | IENT NO.: |
|----------------------------|---------------|------------|------------|------------------------------|------------------|-----------------|---------------------------------------|
| | - | c | HAIN OF | CUSTODY REC | ORD | PAGE | OF |
| | | | 0 1 | 1-25 | | DATE | 10 16189 |
| | PROJEC | CT NAME: | Vocale | 5 A. C. 2) | (() . | | |
| | PROJEC | CT NO.: | | 87141863 J | | | |
| Sample Number | Location | Type of | | Type of Container | | of Preservation | Analysis Required |
| 10.71 | de | Material | Method | ALME VOA | Temp / | Chemical | |
| ncc-15-13 | W(C-1) | WAIEL | BAICED | 1 | +,,,,, | 1 | |
| 4cc-75.12 | | | | | | | |
| nic-75-15 | V | | | | | | |
| WCC-65-1A | wcc-65 | | | | 1 1 | | |
| 1,00 - 65-18 | | | | | ++-+ | | |
| wcc-05-12 | $\overline{}$ | | | | +++ | | |
| WCC-65-15 | | | | | ++-+ | | |
| WCC-125-1A WCC-125-1B | | | | | 111 | | |
| MCC-132-18 | 1. | | / | | | | - · |
| wcc-123-15 | y | 1 | | V | V | y | |
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| | | | | | | | |
| Total Number of S | amples Sh | ipped: / 2 | Sample | | H Yla | | |
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| Signature Printed Name | | to Glas | sugn- | Printed Name | 146:5774 | 166 1-11th, | 7 / / / / Time |
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